

*Abstract of
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KAMEYAMA HISAMI
KONDO CHIHARU
TAKADA NORIHISA**(54) SKIN LOTION****(57)Abstract:**

PROBLEM TO BE SOLVED: To obtain a skin lotion which is used for external uses, can prevent the generation of lipid peroxides on the surfaces of skins or in the skins and the inflammation, melanization, wrinkling, sagging, and the like, of the skins, and has an excellent activity to prevent the aging of the skins, by adding a tomato pigment as an active ingredient.

SOLUTION: This skin lotion contains the pigment of tomato as an active ingredient. The pigment of the tomato preferably contains as a main ingredient a lycopene complex which is obtained by centrifugally separating the treated product of the tomato, collecting a liquid portion, subjecting the liquid portion to a precise filtration and then collecting an impermeated portion. The skin preparation for the external use is preferably further compounded with one or more ingredients selected from medicinally effective ingredients consisting of an active oxygen-removing agent (for example, superoxide dismutase), an antioxidant (for example, a vitamin A compound), an anti-inflammatory agent (for example, glycyrrhizinic acid), a UV light absorbent (for example, para-aminobenzoic acid), a cell-activating agent (for example, deoxyribonucleic acid) and a moisturizing agent (for example, hyaluronic acid).

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(54) 【発明の名称】 皮膚外用剤

(57) 【要約】

【課題】 従来より高い老化防止効果を有し、製剤中で変質することなく、また皮膚への安全性にも優れ、皮膚表面および皮膚内での過酸化脂質の生成及び皮膚の炎症、黒化、シワ、タルミ等の皮膚老化現象に対し極めて高い改善及び予防効果が得られる皮膚外用剤を提供する。

【解決手段】 トマト色素を有効成分として含有することを特徴とする化粧品等の皮膚外用剤、並びに、当該皮膚外用剤に、さらに活性酸素除去剤、抗酸化剤、抗炎症剤、紫外線防止剤、細胞賦活剤、保湿剤から選ばれる薬効成分の一種又は二種以上を配合した皮膚外用剤。

【特許請求の範囲】

【請求項1】 トマト色素を有効成分として含有することを特徴とする皮膚外用剤。

【請求項2】 トマト色素が、トマト処理物を遠心分離して液体部分を採取し、これを精密濾過して非透過物を採取することにより得られるリコピン複合体を主成分とするものである請求項1記載の皮膚外用剤。

【請求項3】 老化防止化粧料である請求項1または2記載の皮膚外用剤。

【請求項4】 さらに、活性酸素除去剤、抗酸化剤、抗炎症剤、紫外線防止剤、細胞賦活剤及び保湿剤よりなる群から選ばれる薬効成分の一種又は二種以上を含有する請求項1ないし3のいずれかの項記載の皮膚外用剤。

【請求項5】 活性酸素除去剤が、スーパーオキシドディスムターゼ(SOD)、マンニトール、カロチノイド類、アスタキサンチン、ルチン及びその誘導体、ビリルビン、コレステロール、トリプトファン、ヒスチジン、クエルセチン、クエルシトリン、カテキン及びその誘導体、没食子酸及びその誘導体並びにグルタチオン及びその誘導体よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項6】 活性酸素除去剤が、オウゴン抽出物、イチョウ抽出物、ケイケツウ抽出物、サンザシ抽出物、マイカイカ抽出物、ユキノシタ抽出物、メリッサ抽出物、ゲンノショウコ抽出物、ボタンビ抽出物、パセリ抽出物、トルメンチラ抽出物、羅漢果抽出物、ヤシャヅツ抽出物、ジコッピ抽出物、ステビア抽出物並びにエイジツ抽出物よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項7】 抗酸化剤が、ビタミンA類及びそれらの誘導体、ビタミンB類及びそれらの誘導体、ビタミンC類及びそれらの誘導体、ビタミンD類及びそれらの誘導体、ビタミンE類及びそれらの誘導体、ジブチルヒドロキシトルエン並びにブチルヒドロキシアニソールよりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項8】 抗炎症剤が、グリチルリチン酸及びその誘導体、グリチルレチン酸及びその誘導体、メフェナム酸及びその誘導体、フェニルブタゾン及びその誘導体、インドメタシン及びその誘導体、イブプロフェン及びその誘導体、ケトプロフェン及びその誘導体、アラントイン及びその誘導体、グアイアズレン及びその誘導体、 ϵ -アミノカプロン酸、ジクロフェナクナトリウム並びにトラネキサム酸及びその誘導体よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項9】 抗炎症剤が、アシタバ抽出物、アルニカ抽出物、イブキトラノオ抽出物、ウコン抽出物、オトギリソウ抽出物、オウバク抽出物、カミツレ抽出物、カンゾウ抽出物、キンギンカ抽出物、クレソン抽出物、コンフリー抽出物、ゴカヒ抽出物、サルビア抽出物、シコン

抽出物、シソ抽出物、シラカバ抽出物、チャ抽出物、トウキンセンカ抽出物、ニワトコ抽出物、ホオウ抽出物、ムクロジ抽出物、ヨモギ抽出物、ユーカリ抽出物、トウキ抽出物並びにレンゲソウ抽出物よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項10】 紫外線防止剤が、パラアミノ安息香酸(PABA)、PABAエチル、PABAグリセリル、N,N-ジメチルPABAアミル、N,N-ジメチルPABA-2-エチルヘキシル、サリチル酸-2-エチルヘキシル、サリチル酸エチレングリコール、サリチル酸ホモメンチル、4-メトキシケイ皮酸-2-エチルヘキシル、4-メトキシケイ皮酸エトキシエチル、4-メトキシケイ皮酸カリウム、4-5-ジイソプロピルケイ皮酸メチル、ジパラメトキシケイ皮酸モノ-2-エチルヘキサン酸グリセリル、2-ヒドロキシ-4-メトキシベンゾフェノン、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸ナトリウム、2,2'-ジヒドロキシ-4,4'-ジメトキシベンゾフェノン、2,2'-ジヒドロキシ-4,4'-ジメトキシベンゾフェノン-5-スルホン酸ナトリウム、2-4-ジヒドロキシベンゾフェノン、2,2',4,4'-テトラヒドロキシベンゾフェノン、2-(2-ヒドロキシ-5-メチルフェニル)-ベンゾトリアゾール、ウロカニン酸、ウロカニン酸エチル、4-ヒポチル-4'-メトキシ-ジベンゾイルメタン、酸化チタン、酸化亜鉛、酸化鉄、酸化セリウム及び酸化ジルコニウムよりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項11】 細胞賦活剤が、デオキシリボ核酸及びその誘導体、アデノシン三リン酸、アデノシン二リン酸、アデノシン一リン酸から選ばれるアデニル酸誘導体、リボ核酸及びその誘導体；サイクリックAMP、サイクリックGMP、フラビンアデニンヌクレオチド、グアニン、アデニン、シトシン、チミン、キサンチン及びそれらの誘導体であるカフェイン、テオフィリンから選ばれる核酸関連物質； α -及び γ -リノレン酸、エイコサペンタエン酸並びにそれらの誘導体、エストラジオール、エテニルエストラジオール；グリコール酸、クエン酸、乳酸、リンゴ酸、酒石酸、コハク酸及びサリチル酸から選ばれる有機酸及びそれらの誘導体；ヒノキチオール並びにセファランチンよりなる群から選ばれる一種又は二種以上である請求項4記載の皮膚外用剤。

【請求項12】 細胞賦活剤が、胎盤抽出物、幼牛血液抽出液、血清除蛋白抽出物、脾臓抽出物、卵成分、鶏冠抽出物、貝殻抽出物、貝肉抽出物、ローヤルゼリー、シルクプロテイン及びその分解物並びにそれらの誘導体、ヘモグロビン及びその分解物、ラクtofエリン及びその分解物、イカスミ抽出物から選ばれる動物由来の抽出物；酵母抽出物、乳酸菌抽出物、ビフィズス菌抽出物、

発酵代謝産物から選ばれる微生物由来の抽出物；アスパラガス抽出物、ニンジン抽出物、シイタケ抽出物、ダイズ抽出物、センブリ抽出物、タイソウ抽出物、ローズマリー抽出物、ニンニク抽出物、トウガラシ抽出物、ブナの芽抽出物、オオムギ抽出物、ブドウ種子油、米発酵抽出物、レタス抽出物、アボガド抽出物、靈芝抽出物並びに冬虫夏草抽出物よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項13】 保湿剤が、ヒアルロン酸、コンドロイチン硫酸、デルマトン硫酸、ヘパラン硫酸、ヘパリン及びケラタン硫酸から選ばれるムコ多糖類及びそれらの誘導体；コラーゲン、エラスチン、フィブロネクチン、ケラチンから選ばれるタンパク質及びそれらの誘導体並びに加水分解物；グリシン、アラニン、バリン、イソロイシン、セリン、スレオニン、アスパラギン酸、グルタミン酸、アスパラギン、グルタミン、リジン、ヒドロキシリジン、アルギニン、シスチン、システイン、メチオニン、フェニルアラニン、チロシン、プロリン、ヒドロキシプロリン、テアニン、オルチニン、シトルリン、ピロリドンカルボン酸から選ばれるアミノ酸及びそれらの誘導体；ソルビトール、エリスリトール、マルトース、マルチトール、キシリトール、キシロース、トレハロース、イノシトール、グルコース、ペンタエリスリトール、果糖、蔗糖及びそのエステル、デキストリン及びその誘導体から選ばれる糖類；ムチン、D-パンテノール及びその誘導体、尿素、リン脂質、糖脂質並びにセラミドよりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項14】 保湿剤が、ハチミツ、黒砂糖抽出物、アロエ抽出物、海藻抽出物、マルメロ抽出物、ハママリス抽出物、ヘチマ抽出物、ゼニアオイ抽出物、リンゴ抽出物、グレープフルーツ抽出物、プルーン抽出物、ライム抽出物、ユズ抽出物、ボダイジュ抽出物、キイチゴ抽出物、クララ抽出物、モッカ抽出物、小麦胚芽抽出物、インゲンコウ抽出物、シラユリ抽出物、ホップ抽出物、ペパーミント抽出物、ドクダミ抽出物、シャクヤク抽出物、ヨクイニン抽出物、ラベンダー抽出物、カラスムギ抽出物、ブッチャーズブルーム抽出物、アルテア抽出物、ブクリョウ抽出物、イラクサ抽出物、ウイキョウ抽出物、キウイ抽出物、キュウリ抽出物、ブドウ抽出物、サボテン抽出物、ジオウ抽出物、スギナ抽出物、センキュウ抽出物、ソウハクヒ抽出物、タチジャコウソウ抽出物、マロニエ抽出物、モモ抽出物、バラ抽出物、アンズ抽出物、トウモロコシ抽出物、ショウガ抽出物、レモン抽出物、オレンジ抽出物、イチゴ抽出物、ゲンチアナ抽出物、ウスベニアオイ抽出物、サイシン抽出物、ゴボウ抽出物、ハウチマメ抽出物、イナゴマメ抽出物、キヅタ抽出物、マツ抽出物、ヤグルマソウ抽出物、ワレモコウ抽出物並びにオノニス抽出物よりなる群から選ばれる一種または二種以上である請求項4記載の皮膚外用剤。

【請求項15】 トマト色素の含有量が、0.0005～5重量%である、請求項1ないし14のいずれかの項記載の皮膚外用剤。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明はトマト色素を含有する皮膚外用剤に関し、更に詳細には皮膚表面及び皮膚内での過酸化脂質の生成及び肌の炎症、黒化、シワ、タルミ等を防止することができる、優れた皮膚老化防止効果を有する皮膚外用剤に関する。

【0002】

【従来の技術】従来より、乳液、クリーム、化粧水、パック、洗淨料、ファンデーション、分散液、軟膏等の皮膚外用剤には、皮膚の老化現象の防止及び肌荒れの改善を目的として、これらに種々の薬効成分が加えられている。例えば、活性酸素除去、抗炎症、細胞賦活作用等を持つ薬効成分として、スーパーオキシドディスムターゼ(SOD)、マンニトール、アラントイン、ニンジン抽出物、牛血液除蛋白抽出物、発酵代謝産物等の薬効成分が配合されている。

【0003】

【発明が解決しようとする課題】しかしながら、上記の薬効成分を配合した皮膚外用剤では、薬効成分の効果が十分でなかったり、あるいは、製剤中で変質するなどして所期の薬効が得られない場合が多く、その改善が望まれていた。

【0004】

【課題を解決するための手段】本発明者らは、これらの問題を解決するため鋭意検討を行なった結果、トマト色素が皮膚表面及び皮膚内での過酸化脂質の生成及び肌の炎症、黒化、シワ、タルミ等の老化現象を防止する効果が優れていることを見出し、本発明を完成した。

【0005】すなわち本発明は、トマト色素を有効成分として含有することを特徴とする皮膚外用剤を提供するものである。

【0006】

【発明の実施の形態】本発明に用いられるトマト色素は、トマト[ライコベルシカム エスカレンタム: *Lycopersicon esculentum* (ナス科)]等の果実から得られるものであるが、種類や産地はとくに限定されない。

【0007】トマト色素の調製法としては特に限定されないが、好適な方法として、例えば特開平9-183914号公報に示される、トマトの果肉の処理物をそのままあるいは適宜加水して水性懸濁液とした後、遠心分離をして液体部分を採取し、これを精密濾過して非透過物であるトマト色素を得る方法が挙げられる。

【0008】即ち、まずトマト果肉を常法により破碎、磨砕等し、必要に応じて裏ごし等を行って果皮、種子等を除去してトマト処理物を得るか、あるいは、必要に応

じてこれをさらに濃縮してトマト処理濃縮液を得る。トマト処理液はそのまま、トマト処理濃縮液は適宜1.5～7倍程度、好ましくは2～5倍程度の容量の水を加えて水性懸濁液を調製することが好ましい。水性懸濁液とすることにより、多量の水の洗浄効果により、無味無臭のトマト色素が得られると共に、リコピン複合体の回収率を高めることができる。

【0009】得られたトマト処理液またはトマト処理濃縮液の水性懸濁液は、物理的な微細処理及び／またはベクトリアーゼ、ペクチナーゼ、セルラーゼ、ヘミセルラーゼ、プロティアーゼ、アミラーゼ、リパーゼ等の植物組織崩壊酵素を用い、常法により処理して細胞を殆ど、あるいは完全に破壊しておく、トマト色素中のリコピン複合体が高濃度になるため好ましい。

【0010】次いでトマト処理液または上記水性懸濁液は、遠心分離によってペースト状の固形分とトマト色素を高濃度に含む液体部分に分けられる。遠心分離の条件は適宜選択しうるが、一般に3000G以上で10分間以上の高速遠心分離とすることが好ましい。

【0011】得られた液体部分には、多糖類、タンパク質、糖、酸など原料由来の夾雑物も含まれているため、精密濾過処理を行いトマト色素と当該夾雑物とを分離する。精密濾過は0.1～10 μ m程度の粒子を分離できるものであれば、いかなる方式のものも採用でき、市販の精密濾過膜を好適に利用できる。精密濾過の操作条件は適宜設定しうるが、一般に濾過の圧力は、0.1～8.0kg/cm²程度が好ましく、温度は10～80℃程度が好ましい。精密濾過によって分けられた非透過部を採取することによりトマト色素が得られるが、このトマト色素は必要に応じて適当な条件で加熱殺菌することが好ましい。

【0012】このようにして得られたトマト色素は、平均粒径およそ0.2～10 μ mのリコピン複合体を主成分としている。リコピンは極性基を持たない疎水性の炭化水素系カロチノイド化合物の一種で、動植物、特にトマトに多く含有されており、リコピン複合体は、トマトリコピンの疎水性結合が破壊され、そこにトマト由来の蛋白や多糖類の両親媒性高分子、更に膜構造体が結合したものである。このリコピン複合体は、水性液体に対して非常に優れた溶解性、懸濁性を示し、無味無臭であるため、皮膚外用剤の基剤として非常に好ましい性質を有している。従って、本発明ではトマト色素ではなく、その主成分であるリコピン複合体を有効成分として利用してもよいことは勿論である。この場合でもトマトを原料としてリコピン複合体を分離製造する方法が収率の点で好ましい。

【0013】本発明の皮膚外用剤におけるトマト色素の含有量は、好ましくは0.0005～5重量%（以下単に「%」で示す）であり、より好ましくは0.001～2%である。この範囲内であれば、トマト色素を安定に

配合することができる。また、トマト色素を含有する抽出液を使用する場合は、溶質である乾燥固形分の含有量が上記範囲内であれば、その抽出液濃度は何ら限定されるものではない。

【0014】なお、トマト色素の化粧品への応用として、口紅等の天然色素としての利用が知られているが（特開平9-183914号公報参照）、それ以外の用途でトマト色素を配合した皮膚外用剤はこれまで知られていなかった。トマト色素に老化防止効果が存在することは本発明者らによって初めて見出されたものである。

【0015】一方、本発明の皮膚外用剤の好ましい態様として、トマト色素と組合せた場合に、さらに高い皮膚老化防止効果が期待できる薬効成分、例えば活性酸素除去剤、抗酸化剤、抗炎症剤、紫外線防止剤、細胞賦活剤、保湿剤等の一種または二種以上を配合した皮膚外用剤を挙げることができる。好適な薬効成分の具体例としては、それぞれ以下に示すものが挙げられる。なお、以下に例示される種々の薬効成分において、「誘導体」には形成可能な塩が含まれる。

【0016】（活性酸素除去剤）活性酸素除去剤としては、例えば、SOD、マンニトール、ベータカロチン等のカロテノイド類、アスタキサンチン、ルチン及びその誘導体、ビリルビン、コレステロール、トリプトファン、ヒスチジン、クエルセチン、クエルシトリン、カテキン及びその誘導体、没食子酸及びその誘導体、グルタチオン及びその誘導体、オウゴン抽出物、イチヨウ抽出物、ケイケツウ抽出物、サンザシ抽出物、マイカイカ抽出物、ユキノシタ抽出物、メリッサ抽出物、ゲンノショウコ抽出物、ボタンビ抽出物、パセリ抽出物、トルメンチラ抽出物、羅漢果抽出物、ヤシャヅツ抽出物、ジコッピ抽出物、エイヅツ抽出物、ステビア抽出物等が挙げられる。これらの活性酸素除去剤は、その一種または二種以上を組み合わせる用いることができる。

【0017】上記活性酸素除去剤のうち、特に好ましいものとして、マンニトール、ベータカロチン、アスタキサンチン、ルチン及びその誘導体、オウゴン抽出物、イチヨウ抽出物、ケイケツウ抽出物、ユキノシタ抽出物、メリッサ抽出物、ゲンノショウコ抽出物が例示される。

【0018】（抗酸化剤）また抗酸化剤としては、例えば、パルミチン酸レチノール、酢酸レチノール等のレチノール及びその誘導体、レチナール及びその誘導体、デヒドロレチナール等のビタミンA類；チアミン及びその誘導体、リボフラビン、酢酸リボフラビン、塩酸ピリドキシン、ピリドキシンジオクタノエート等のピリドキシン類、フラビンアデニンヌクレオチド、シアノコバラミン、葉酸類、ニコチン酸アミド、ニコチン酸ベンジル等のニコチン酸類、コリン類等のビタミンB類；L-アスコルビン酸、パルミチン酸L-アスコルビル、ジパルミチン酸L-アスコルビル、テトライソパルミチン酸L-

アスコルビル、L-アスコルビン酸リン酸エステルナトリウム、L-アスコルビン酸リン酸エステルマグネシウム、L-アスコルビン酸硫酸エステルナトリウム等のビタミンC類；エルゴカルシフェロール、コレカルシフェロール等のビタミンD類；d- α （ β 、 γ ）-トコフェロール、酢酸-d- α -トコフェロール、ニコチン酸-d- α -トコフェロール、リノール酸-d- α -トコフェロール等のビタミンE類；ジブチルヒドロキシルエーテル、ブチルヒドロキシアニソール等が挙げられる。これらの抗酸化剤は、その一種または二種以上を組み合わせて用いることができる。

【0019】上記抗酸化剤のうち、特に好ましいものとして、ビタミンC類及びその誘導体、ビタミンE類及びその誘導体、ジブチルヒドロキシルエーテルが例示される。

【0020】（抗炎症剤）抗炎症剤としては、例えば、グリチルリチン酸ジカリウム、グリチルリチン酸モノアンモニウム、 β -グリチルレチン酸、グリチルレチン酸ステアリル、3-サクシニルオキシグリチルレチン酸二ナトリウム等のグリチルリチン酸またはグリチルレチン酸及びそれらの誘導体、メフェナム酸及びその誘導体、フェニルブタゾン及びその誘導体、インドメタシン及びその誘導体、イブプロフェン及びその誘導体、ケトプロフェン及びその誘導体、アラントイン及びその誘導体、グアイアズレン及びその誘導体、 ϵ -アミノカプロン酸、ジクロフェナクナトリウム、トラネキサム酸及びその誘導体、アシタバ抽出物、アルニカ抽出物、イブキトラノオ抽出物、ウコン抽出物、オトギリソウ抽出物、オウバク抽出物、カミツレ抽出物、カンゾウ抽出物、キンギンカ抽出物、クレソン抽出物、コンフリー抽出物、ゴカヒ抽出物、サルビア抽出物、シコン抽出物、シソ抽出物、シラカバ抽出物、チャ抽出物、トウキンセンカ抽出物、ニワトコ抽出物、ホオウ抽出物、ムクロジ抽出物、ヨモギ抽出物、ユーカリ抽出物、トウキ抽出物、レンゲソウ抽出物等が挙げられる。これらの抗炎症剤は、その一種または二種以上を組み合わせて用いることができる。

【0021】上記抗炎症剤のうち、特に好ましいものとして、グリチルリチン酸及びその誘導体、グリチルレチン酸及びその誘導体、グアイアズレン及びその誘導体、アルニカ抽出物、オウバク抽出物、カミツレ抽出物、コンフリー抽出物、シコン抽出物、シソ抽出物、シラカバ抽出物、チャ抽出物が例示される。

【0022】（紫外線防止剤）紫外線防止剤としては、例えば、パラアミノ安息香酸（PABA）、PABAエチル、PABAグリセリル、N,N-ジメチルPABA、アミル、N,N-ジメチルPABA-2-エチルヘキシル、サリチル酸-2-エチルヘキシル、サリチル酸エチレングリコール、サリチル酸ホモメンチル、4-メトキシケイ皮酸-2-エチルヘキシル、4-メトキシケイ皮

酸エトキシエチル、4-メトキシケイ皮酸カリウム、4-5-ジイソプロピルケイ皮酸メチル、ジパラメトキシケイ皮酸モノ-2-エチルヘキサン酸グリセリル、2-ヒドロキシ-4-メトキシベンゾフェノン、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸ナトリウム、2,2'-ジヒドロキシ-4,4'-ジメトキシベンゾフェノン、2,2'-ジヒドロキシ-4,4'-ジメトキシベンゾフェノン-5-スルホン酸ナトリウム、2-4-ジヒドロキシベンゾフェノン、2,2',4,4'-テトラヒドロキシベンゾフェノン、2-(2-ヒドロキシ-5-メチルフェニル)-ベンゾトリアゾール、ウロカニン酸、ウロカニン酸エチル、4- α -ブチル-4'-メトキシジベンゾイルメタン、酸化チタン、酸化亜鉛、酸化鉄、酸化セリウム、酸化ジルコニウム等が挙げられる。これらの紫外線防止剤は、その一種または二種以上を組み合わせて用いることができる。

【0023】上記紫外線防止剤のうち、特に好ましいものとして、サリチル酸ホモメンチル、4-メトキシケイ皮酸-2-エチルヘキシル、2-ヒドロキシ-4-メトキシベンゾフェノン、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸、2-ヒドロキシ-4-メトキシベンゾフェノンスルホン酸ナトリウム、4- α -ブチル-4'-メトキシジベンゾイルメタン、酸化チタン、酸化亜鉛、酸化セリウムが例示される。

【0024】（細胞賦活剤）細胞賦活剤としては、例えば、デオキシリボ核酸及びその誘導体、アデノシン三リン酸、アデノシン二リン酸、アデノシン一リン酸等のアデニル酸誘導体、リボ核酸及びその誘導体；サイクリックAMP、サイクリックGMP、フラビンアデニンヌクレオチド、グアニン、アデニン、シトシン、チミン、キサンチン及びそれらの誘導体であるカフェイン、テオフィリン等の核酸関連物質；ブタ、ウシ等の胎盤抽出物、幼牛血液抽出液、血清除蛋白抽出物、脾臓抽出物、トリ等の卵成分、鶏冠抽出物、貝殻抽出物、貝肉抽出物、ローヤルゼリー、シルクプロテイン及びその分解物並びにそれらの誘導体、ヘモグロビン及びその分解物、ラクトフェリン及びその分解物、イカスミ抽出物等の動物由来の抽出物；酵母抽出物、乳酸菌抽出物、ビフィズス菌抽出物、発酵代謝産物等の微生物由来の抽出物； α -及び γ -リノレン酸、エイコサペンタエン酸及びそれらの誘導体、エストラジオール、エチニルエストラジオール；グリコール酸、クエン酸、乳酸、リンゴ酸、酒石酸、コハク酸、サリチル酸等の有機酸及びそれらの誘導体；アスパラガス抽出物、ニンジン抽出物、シイタケ抽出物、ダイズ抽出物、センブリ抽出物、タイソウ抽出物、ローズマリー抽出物、ニンニク抽出物、トウガラシ抽出物、ブナの芽抽出物、オオムギ抽出物、ヒノキチオール、セファランチン、ブドウ種子油、米発酵抽出物、レタス抽出物、アボガド抽出物、靈芝抽出物、冬虫夏草抽出物な

どの植物由来の抽出物等が挙げられる。これらの細胞賦活剤は、その一種または二種以上を組み合わせる用いることができる。

【0025】上記細胞賦活剤のうち、特に好ましいものとして、アデノシン三リン酸、アデノシン二リン酸、アデノシン一リン酸等のアデニル酸誘導体、カフェイン、胎盤抽出物、血液除蛋白抽出物、ローヤルゼリー、貝殻抽出物、貝肉抽出物、ラクトフェリン及びその分解物、酵母抽出物、乳酸菌抽出物、ビフィズス菌抽出物、 α -及び γ -リノレン酸、エイコサペンタエン酸及びそれらの誘導体、エストラジオール、エチニルエストラジオール、グリコール酸、乳酸、リンゴ酸、サリチル酸及びそれらの誘導体、オオムギ抽出物、ローズマリー抽出物、ニンジン抽出物が例示される。

【0026】(保湿剤)保湿剤としては、従来から皮膚外用剤に用いられているムコ多糖類、タンパク質、糖類、アミノ酸、糖類、植物抽出物等が挙げられる。

【0027】保湿剤の具体例としては、ヒアルロン酸、コンドロイチン硫酸、デルマトン硫酸、ヘパラン硫酸、ヘパリン、セラタン硫酸等のムコ多糖類およびそれらの誘導体；コラーゲン、エラスチン、フィブロネクチン、セラチン等のタンパク質及びそれらの誘導体及び加水分解物；グリシン、アラニン、バリン、イソロイシン、セリン、スレオニン、アスパラギン酸、グルタミン酸、アスパラギン、グルタミン、リジン、ヒドロキシリジン、アルギニン、シスチン、シスチン、メチオニン、フェニルアラニン、チロシン、プロリン、ヒドロキシプロリン、チアニン、オルチニン、シトルリン、ピロリドンカルボン酸等のアミノ酸及びそれらの誘導体；ソルビトール、エリスリトール、マルトース、マルチトール、キシリトール、キシロース、トレハロース、イノシトール、グルコース、ペンタエリスリトール、果糖、蔗糖及びそのエステル、デキストリン及びその誘導体、ハチミツ、黒砂糖抽出物等の糖類；ムチン、D-パンテノール及びその誘導体、尿素、リン脂質、糖脂質、セラミド、アロエ抽出物、海藻抽出物、マルメロ抽出物、ハマメリス抽出物、ヘチマ抽出物、ゼニアオイ抽出物、リンゴ抽出物、グレープフルーツ抽出物、ブルーベリー抽出物、ライム抽出物、ユズ抽出物、ボダイジュ抽出物、キイチゴ抽出物、クランベリー抽出物、モッカ抽出物、小麦胚芽抽出物、インゲンコウ抽出物、シラユリ抽出物、ホップ抽出物、ペ*

*パーミント抽出物、ドクダミ抽出物、ジャコウ抽出物、ヨクイニン抽出物、ラベンダー抽出物、カラスムギ抽出物、ブッチャーズブルーム抽出物、アルテア抽出物、ブクリョウ抽出物、イラクサ抽出物、ウイキョウ抽出物、キウイ抽出物、キュウリ抽出物、ブドウ抽出物、サボテン抽出物、ジオウ抽出物、スギナ抽出物、センキュウ抽出物、ソウハクヒ抽出物、タチジャコウソウ抽出物、マロニエ抽出物、モモ抽出物、バラ抽出物、アンズ抽出物、トウモロコシ抽出物、ショウガ抽出物、レモン抽出物、オレンジ抽出物、イチゴ抽出物、ゲンチアナ抽出物、ウスベニアオイ抽出物、サイシン抽出物、ゴボウ抽出物、ハウチマメ抽出物、イナゴマメ抽出物、キツタ抽出物、マツ抽出物、ヤグルマソウ抽出物、ワレモコウ抽出物、オノニス抽出物等が挙げられる。これらの保湿剤は、その一種または二種以上を組み合わせる用いることができる。

【0028】上記保湿剤のうち特に好ましいものとして、ヒアルロン酸、コンドロイチン硫酸及びそれらの誘導体、コラーゲン、エラスチン、セラチン及びそれらの誘導体および加水分解物、グリシン、セリン、アルギニン、グルタミン、グルタミン酸、チアニン、プロリン、ピロリドンカルボン酸から選ばれるアミノ酸及びそれらの誘導体、ソルビトール、エリスリトール、キシリトール、キシロース、トレハロース、イノシトール、グルコース、ムチン、D-パンテノール及びその誘導体、尿素、リン脂質、海藻抽出物、マルメロ抽出物、ボダイジュ抽出物、アルテア抽出物、ハマメリス抽出物、ヨクイニン抽出物が例示される。

【0029】本発明の皮膚外用剤において、トマト色素と組合せて用いられる上記薬効成分の配合量は、その種類により相違するが、下記表1に例示する範囲においては、製剤自体及び製剤中のトマト色素の経時安定性に影響を及ぼすことなく、しかもより優れた活性酸素除去効果、抗酸化効果、抗炎症効果、紫外線防止効果、細胞賦活効果、保湿効果または老化防止効果の発現が得られるので特に好ましい。なお、各任意成分として植物抽出物などを抽出液のまま用いる場合は、乾燥固形分として以下の範囲であればよい。

【0030】

【表1】

薬効成分	好ましい配合量 (%)	特に好ましい配合量 (%)
活性酸素除去剤	0.00001~5	0.001~3
抗酸化剤	0.00001~5	0.001~3
抗炎症剤	0.00001~5	0.001~3
紫外線防止剤	0.01~30	0.1~20
細胞賦活剤	0.0001~5	0.001~3
保湿剤	0.0001~5	0.001~3

【0031】皮膚外用剤の形態の例としては、特に限定されず、例えば、乳液、クリーム、化粧水、パック、洗淨料等のスキンケア化粧料、ファンデーション、アイシャドウ、マスカラ等のメーキャップ化粧料、分散液、軟膏、外用液剤、クリーム剤などの化粧料や外用医薬品等とすることができる。

【0032】また、皮膚外用剤の形態に応じ、他の任意成分として通常化粧品や医薬品等の皮膚外用剤に用いられる成分、例えば、水（例えば、アルカリ単純温泉水、深層水、精製水等を含む）、低級アルコール、多価アルコール、油脂、ロウ、鉱物油、脂肪酸、粉体、金属セッケン、pH調整剤、界面活性剤、増粘剤、色素、植物又は動物系原料由来の抽出物、ビタミン類、ホルモン類、殺菌・消毒剤、角質溶解剤、酵素、清涼剤、安定化剤、金属イオンキレート剤、血行促進剤、美白剤、収斂剤、抗脂漏剤、精油、消臭剤、香料等を配合することができる。

【0033】

【実施例】次に参考例、試験例及び実施例を挙げて本発明を更に詳細に説明するが、本発明はこれらになんら制約されるものではない。

【0034】参考例1

トマト色素の製造：常法によりトマトの果肉を磨り潰し、裏ごしをして果皮、種子などを除き水分を調整して、トマト処理濃縮液の水懸濁液を調製した。これを磨砕機で処理してトマト果実の組織と細胞を崩壊せしめ、*

* トマト処理物を得た。この処理物に、植物組織崩壊酵素ベクトリアーゼを、温度30℃の条件で添加し、攪拌しつつトマト果実の組織と細胞の崩壊反応を行い、組織と細胞が完全に崩壊したトマト処理物を得た。この処理物を加熱処理して該添加酵素の失活を行なった後、高速遠心分離器にかけ、パルプ分を濃厚に含有するペースト状の沈殿物と、濃赤色を呈しリコピン複合体を15mg%含有する液体部分とに分離した。得られた液体部分を精密濾過膜により透過処理し、精密濾過膜の非透過側よりペースト状の濃赤色を有するリコピン複合体約300mg%、不溶性固形分約1%を含有するトマト色素を得た。

【0035】試験例1

過酸化脂質抑制試験：脂質過酸化抑制試験は、679型ランシマット装置（Metrohm社製）を用いて酸化誘導時間の比較を行った。すなわち、ヒマシ油3g中に参考例1で製造したトマト色素を0.1%となるように混合した後、反応容器にセットし、120℃に加熱しながら、空気を送り込み試料を強制的に酸化させる。酸化により生成された分解生成物を水中に捕捉し、導電率の変化を電極によって測定した。対照として、同濃度のd1- α -トコフェロールを用いた。その結果を表2に示す。

【0036】（結果）

【表2】

試 料 名	酸化誘導時間（時間）
トマト色素（*1）	30.4
d1- α -トコフェロール（*2）	20.5

*1 参考例1で製造したもの

*2 和光純薬社製

【0037】表2の結果から明らかなごとく、参考例1のトマト色素は高い過酸化脂質抑制能を示した。

【0038】実施例1

クリーム：表3に示す組成及び下記製法でクリームを調

製し、その美肌効果及び老化防止効果を調べた。

【0039】（組成）

【表3】

成分 (%)	本 発 明 品							比較品
	1	2	3	4	5	6	7	1
(1) ミツロウ	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
(2) セタノール	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(3) 還元ラノリン	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(4) スクワラン	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
(5) 親油性モノステアリン酸グリセリル	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
(6) ポリオキシエチレンソルビタンモノラウレート (20 E. O)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
(7) トマト色素*1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	—
(8) オウゴン抽出物*2	—	5.0	—	—	—	—	—	—
(9) アロエ抽出物*3	—	—	5.0	—	—	—	—	—
(10) ビタミンEアセテート*4	—	—	—	0.1	—	—	—	—
(11) 4-メトキシケイ皮酸-2-エチルヘキシル*5	—	—	—	—	2.0	—	—	—
(12) ローズマリー抽出物*6	—	—	—	—	—	5.0	—	—
(13) コンドロイチン硫酸ナトリウム*7	—	—	—	—	—	—	0.1	—
(14) 防腐剤	適量	適量	適量	適量	適量	適量	適量	適量
(15) 香料	適量	適量	適量	適量	適量	適量	適量	適量
(16) 精製水	残量	残量	残量	残量	残量	残量	残量	残量

*1 参考例1で製造したもの

*2 一丸ファルコス社製

*3 丸善製薬社製

*4 エーザイ社製

*5 BASF社製

*6 丸善製薬社製

*7 生化学工業社製

【0040】(製法)

- A. 成分(1)～(6)、(10)、(11)及び(14)を混合し、加熱して70℃に保つ。
 B. 成分(16)を混合し、加熱して70℃に保つ。
 C. AにBを加え、混合した後冷却する。
 D. Cに成分(7)～(9)、(12)、(13)及び(15)を添加し、クリームを得た。

【0041】(試験方法)被験クリーム1品につき28～55才の女性15名を一群とし、毎日朝と夜の2回、12週間にわたって洗顔後に被験クリームの適量を顔面に塗布した。塗布による美肌及び老化防止効果を以下の基準によって評価した。

【0042】(評価基準)

美肌効果:

<評価> <内 容>

- 有 効 : 肌のくすみが目立たなくなった。
 やや有効 : 肌のくすみがあまり目立たなくなった。
 無 効 : 使用前と変化なし。

【0043】老化防止効果:

<評価> <内 容>

- 有 効 : 肌のはり、つやが改善された。
 やや有効 : 肌のはり、つやがやや改善された。
 無 効 : 使用前と変化なし。

【0044】(結果)

【表4】

評 価		本 発 明 品							比 較 品
		1	2	3	4	5	6	7	1
美肌 効果	有 効	10	13	13	14	14	14	13	0
	やや有効	4	2	2	1	1	1	2	3
	無 効	1	0	0	0	0	0	0	12
老化 防止 効果	有 効	10	13	13	14	14	14	14	0
	やや有効	3	2	2	1	1	1	1	3
	無 効	2	0	0	0	0	0	0	12

【0045】表4の結果に示される如く、本発明品1～7に代表されるトマト色素単独及びトマト色素と薬効剤を配合した本発明組成物は、これらを皮膚に適用することにより、肌の「くすみ」等の発生の防止、改善することができ、美しい肌とするとともに、肌のはり、つや*

*が改善され皮膚の老化を防止することが明らかとなった。

【0046】実施例2

化粧水：次に示す処方及び下記製法で化粧水を調製した。

(処方)	(%)
(1) グリセリン	5.0
(2) 1, 3-ブチレングリコール	6.5
(3) ポリオキシエチレン (20 E. O.) ソルビタン モノラウリン酸エステル	1.2
(4) エチルアルコール	5.0
(5) 2-ヒドロキシ-4-メトキシベンゾフェノン -5-硫酸 (*1)	1.0
(6) トマト色素 (*2)	0.001
(7) 防腐剤	適 量
(8) 香料	適 量
(9) 精製水	残 量
*1 メルク社製	
*2 参考例1で製造したもの	

【0047】(製法)

- A. 成分 (3)、(7) 及び (8) を混合溶解する。
B. 成分 (1)、(2)、(4)、(5)、(6) 及び (9) を混合溶解する。 ※

※ C. A と B を混合して均一にし、化粧水を得た。

【0048】実施例3

乳液：次に示す処方及び下記製法で乳液を調製した。

(処方)	(%)
(1) ポリオキシエチレン (10 E. O.) ソルビタン モノステアレート	1.0
(2) ポリオキシエチレン (60 E. O.) ソルビタン テトラオレエート	0.5
(3) グリセリルモノステアレート	1.0
(4) ステアリン酸	0.5
(5) ベヘニルアルコール	0.5
(6) スクワラン	8.0
(7) 防腐剤	適 量
(8) トマト色素 (*1)	0.5
(9) グリチルリチン酸ジカリウム (*2)	0.5
(10) ヒアルロン酸ナトリウム (*3)	0.5
(11) カルボキシビニルポリマー	0.1

17	18
(12) 水酸化ナトリウム	0.05
(13) エチルアルコール	5.0
(14) 精製水	残 量
(15) 香料	適 量
*1 参考例1で製造したもの	
*2 丸善製薬社製	
*3 キュービー社製	

【0049】(製法)

A. 成分(9)、(11)～(14)を加熱混合し、70℃に保つ。

B. 成分(1)～(7)を加熱混合し、70℃に保つ。

C. BにAを加えて混合し、均一に乳化する。

* D. Cを冷却後(8)、(10)及び(15)を加え、均一に混合して乳液を得た。

10 【0050】実施例4

クリーム：次に示す処方及び下記製法でクリームを調製した。

(処方)	(%)
(1) ポリオキシエチレン(40E. O.)モノステアレート	2.0
(2) グリセリンモノステアレート(自己乳化型)	5.0
(3) ステアリン酸	5.0
(4) ベヘニルアルコール	0.5
(5) スクワラン	15.0
(6) イソオクタン酸セチル	5.0
(7) 防腐剤	適 量
(8) 1,3-ブチレングリコール	5.0
(9) トマト色素(*1)	1.0
(10) ケイケツウ抽出物(*2)	1.0
(11) ニンジン抽出物(*3)	1.0
(12) ケラチン加水分解液(*4)	1.0
(13) 精製水	残 量
(14) 香料	適 量
*1 参考例1で製造したもの	
*2 丸善製薬社製	
*3 丸善製薬社製	
*4 成和化成製	

【0051】(製法)

A. 成分(1)～(7)を70℃にて加熱溶解する。

B. 成分(8)、(13)の一部を70℃に加熱する。

C. AをBに加え、冷却しながら成分(9)～(12)、(13)の残部及び(14)を加え、クリームを得た。

【0052】実施例2の化粧水、実施例3の乳液及び実※

※ 施例4のクリームはいずれも皮膚に適用することにより、過酸化脂質による肌の炎症、黒化、シワ、タルミ等の老化現象を防止するとともに、はりやつやのある美しい肌にするものであった。

【0053】実施例5

パック：次に示す処方及び下記製法でパックを調製した。

(処方)	(%)
(1) ポリビニルアルコール	20.0
(2) エチルアルコール	20.0
(3) グリセリン	5.0
(4) カオリン	6.0
(5) トマト色素(*1)	2.0
(6) カミツレ抽出液(*2)	2.0
(7) 酵母抽出物(*3)	1.0
(8) 防腐剤	適 量
(9) 香料	適 量
(10) 精製水	残 量
*1 参考例1で製造したもの	

*2 A.M.I.社製

*3 日光ケミカルズ社製

【0054】(製法)

A. 成分(1)、(3)、(4)及び(10)を混合し、70℃に加熱し、攪拌する。
 B. 成分(2)及び(8)を混合する。
 C. 上記Bを先のAに加え、混合した後、冷却して(5)、(6)、(7)及び(9)を均一に分散してパックを得た。

(処方)	(%)
(1) ラノリン	7.0
(2) 流動パラフィン	5.0
(3) ステアリン酸	2.0
(4) セタノール	1.0
(5) 4-メトキシケイ皮酸-2-エチルヘキシル(*1)	5.0
(6) グリセリン	5.0
(7) トリエタノールアミン	1.0
(8) カルボキシメチルセルロース	0.7
(9) 精製水	残量
(10) マイカ	15.0
(11) タルク	6.0
(12) 着色顔料	6.0
(13) トマト色素(*2)	0.02
(14) ユキノシタ抽出液(*3)	0.02
(15) 香料	適量
*1 BASF社製	
*2 参考例1で製造したもの	
*3 一丸ファルコス社製	

【0057】(製法)

A. 成分(1)～(5)を混合し、加熱して70℃に保つ。
 B. Aに成分(10)～(12)を加え、均一に混合する。
 C. 成分(6)～(9)を均一に溶解し、70℃に保つ。
 D. BにCを添加して、均一に乳化する。
 E. Dを冷却後、成分(13)～(15)を添加してリ※

(処方)	(%)
(1) カルボキシビニルポリマー	1.0
(2) トリエタノールアミン	1.0
(3) エチルアルコール	20.0
(4) トマト色素(*1)	0.002
(5) マンニトール(*2)	0.5
(6) コラーゲン(*3)	0.5
(7) 精製水	残量
*1 参考例1で製造したもの	
*2 シグマ社製	
*3 高研社製	

【0060】(製法)

A. 成分(1)及び(3)～(7)を混合溶解する。

*【0055】本発明のパックは、皮膚に適用することにより、過酸化脂質による肌の炎症を抑え、黒化、シワ、タルミ等の老化現象を防止すると共に、肌の「くすみ」を防止し、透明感のある美しい肌にするものであった。

【0056】実施例6

リキッドファンデーション：次に示す処方及び下記製法でリキッドファンデーションを調製した。

※キッドファンデーションを得た。

【0058】本発明のリキッドファンデーションは、皮膚に適用することにより、過酸化脂質による肌の炎症、黒化、シワ、タルミ等の老化現象を防止するものであった。

【0059】実施例7

ゲル軟膏：次に示す処方及び下記製法でゲル軟膏を調製した。

B. Aに成分(2)を加え、混合して均一にし、ゲル軟膏を得た。

【0061】本発明のゲル軟膏は、皮膚に適用することにより、過酸化脂質による肌の炎症、黒化、シワ、タルミ等の老化現象を防止するとともに、はりやつやのある美しい肌にするものであった。

【0062】

【発明の効果】以上のごとく、本発明のトマト色素を含*

*有する皮膚外用剤は、皮膚表面及び皮膚内での過酸化脂質の生成及び肌の炎症、黒化、シワ、タルミ等の老化防止現象に対し極めて高い改善及び予防効果を有するものであり、美容や医療において極めて有用なものである。

以 上

フロントページの続き

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(72)発明者 亀山 久美	東京都北区栄町48番18号 株式会社コーセー研究本部内	F ターム(参考)	4C076 AA06 AA09 AA16 BB31 CC04 CC18 CC22 CC26 FF70
(72)発明者 近藤 千春	東京都北区栄町48番18号 株式会社コーセー研究本部内		4C083 AA00 AA031 AA032 AA071 AA082 AA111 AA112 AA121 AB032 AB211 AB231 AB241 AB432 AB442 AC022 AC031 AC072 AC122 AC131 AC132 AC211 AC231 AC241 AC242 AC291 AC301 AC311 AC341 AC342 AC351 AC352 AC391 AC392 AC422 AC442 AC471 AC472 AC481 AC542 AC551 AC581 AC621 AC641 AC681 AC791 AC841 AC851 AD092 AD112 AD201 AD211 AD221 AD241 AD272 AD311 AD321 AD331 AD332 AD341 AD342 AD391 AD411 AD431 AD432 AD441 AD442 AD451 AD471 AD491 AD512 AD531 AD551 AD571 AD591 AD601 AD621 AD631 AD641 AD651 AD661 AD662 BB46 BB47 BB51 CC04 CC05 CC07 CC12 DD23 DD27 DD31 DD39 DD41
(72)発明者 高田 式久	群馬県沼田市善桂寺町86-11		4C086 AB02 AB25 AB26 AB32 AB38 AB40 AB48 AB51 AB55 AB66 BA08 NA02 NA03 NA07 NA08 NA16 NA28 NA53 NA14 ZA89 ZC52

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(54) SKIN LOTION**(57)Abstract:**

PROBLEM TO BE SOLVED: To obtain a skin lotion which is used for external uses, can prevent the generation of lipid peroxides on the surfaces of skins or in the skins and the inflammation, melanization, wrinkling, sagging, and the like, of the skins, and has an excellent activity to prevent the aging of the skins, by adding a tomato pigment as an active ingredient.

SOLUTION: This skin lotion contains the pigment of tomato as an active ingredient. The pigment of the tomato preferably contains as a main ingredient a lycopene complex which is obtained by centrifugally separating the treated product of the tomato, collecting a liquid portion, subjecting the liquid portion to a precise filtration and then collecting an impermeated portion. The skin preparation for the external use is preferably further compounded with one or more ingredients selected from medicinally effective ingredients consisting of an active oxygen-removing agent (for example, superoxide dismutase), an antioxidant (for example, a vitamin A compound), an anti-inflammatory agent (for example, glycyrrhizinic acid), a UV light absorbent (for example, para-aminobenzoic acid), a cell-activating agent (for example, deoxyribonucleic acid) and a moisturizing agent (for example, hyaluronic acid).

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
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CLAIMS

[Claim(s)]

[Claim 1]Skin external preparations containing tomato color as an active principle.

[Claim 2]The skin external preparations according to claim 1 which are that to which tomato color uses as the main ingredients a lycopene complex obtained by centrifuging tomato treating material, extracting a liquid part, carrying out precision filtration of this and extracting a nontransparent thing.

[Claim 3]The skin external preparations according to claim 1 or 2 which are an aging prevention cosmetic.

[Claim 4]Skin external preparations given [of the Claims 1-3 containing a kind of medicinal properties chosen from a group which consists of an active oxygen remover, an anti-oxidant, an anti-inflammatory agent, ultraviolet inhibitor, a cell activator, and a moisturizer, or two sorts or more / one] in a clause.

[Claim 5]An active oxygen remover Super-oxide dismutase (SOD), Mannitol, carotenoid, astaxanthin, rutin, and its derivative, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of bilirubin, cholesterol, tryptophan, histidine, quercetin, quercitrin, catechin and its derivative, gallic acid, its derivative, glutathione, and its derivative, or two sorts or more.

[Claim 6]An active oxygen remover A Scutellaria root extract, a ginkgo tree extract, the Spatholobus suberectus Dunn extract, A white thorn extract, a mica cuttlefish extract, a creeping saxifrage extract, the Melissa extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a Geranium thunbergii Sieb. etZucc. extract, a Moutan bark extract, a parsley extract, a torr MENCHIRA extract, a rakanka extract, a YASHAJITSU extract, Lycium chinense root extract, stevia extract, and a Rose Fruit extract, or two sorts or more.

[Claim 7]An anti-oxidant Vitamin A and those derivatives, vitamin B, and those derivatives, The

skin external preparations according to claim 4 which are a kind chosen from a group which consists of vitamin C and those derivatives, vitamin D and those derivatives, vitamin E and those derivatives, dibutylhydroxytoluene, and butylhydroxyanisole, or two sorts or more.

[Claim 8]An anti-inflammatory agent Glycyrrhizic acid and its derivative, glycyrrhetic acid, and its derivative, Mefenamic acid and its derivative, phenylbutazon and its derivative, indomethacin, and its derivative, Ibuprofen and its derivative, ketoprofen and its derivative, allantoin, and its derivative, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a GUAI azulene and its derivative, epsilon-aminocaproic acid, diclofenac sodium, tranexamic acid, and its derivative, or two sorts or more.

[Claim 9]An anti-inflammatory agent The Angelica keiskei extract, an Arnica extract, Bistorta major extract, A curcmae rhizoma extract, a St. John's wort extract, a cork tree bark extract, a chamomile extract, Licorice extract, a Lonicera-japonica-thunb extract, a watercress extract, a comfrey extract, A GOKAHI extract, a salvia extract, a lithospermi radix extract, perilla extract, a Betula-alba extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of tea extract, the Calendula officinalis extract, a sambucus extract, a HOOU extract, a Sapindus mukurossi extract, mugwort extract, a eucalyptus extract, an angericae radix extract, and an Astragalus sinicus extract, or two sorts or more.

[Claim 10]Ultraviolet inhibitor P aminobenzoic acid (PABA), PABA ethyl, PABA glyceryl, N,N-dimethyl PABA amyl, and N,N-dimethyl PABA-2-ethylhexyl, Salicylic acid-2-ethylhexyl, salicylic acid ethylene glycol, Salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 4-methoxycinnamic acid ethoxyethyl, 4-methoxycinnamic acid potassium, 4-5-diisopropyl methyl cinnamate, JIPARA methoxycinnamic acid mono-2-ethylhexanoic acid glyceryl, 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxybenzophenone sulfonic acid, 2-hydroxy-4-methoxybenzophenone sulfone sodium, 2,2'-dihydroxy-4,4'-dimethoxybenzophenone and 2,2'-dihydroxy-4,4'-dimethoxybenzophenone 5-sulfone sodium, 2-4-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 2-(2-hydroxy-5-methylphenyl)- Benzotriazol, urocanic acid, ethyl urocanate, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of 4-t-butyl-4'-methoxy-dibenzoylmethane, titanium oxide, a zinc oxide, iron oxide, cerium oxide, and zirconium oxide, or two sorts or more.

[Claim 11]A cell activator A deoxyribonucleic acid and its derivative, adenosine triphosphate, An adenylic acid derivative chosen from adenosine diphosphate and adenosine monophosphate, Ribonucleic acid and its derivative; Cyclic AMP, cyclic GMP, Flavin adenine dinucleotide, guanine, adenine, cytosine, thymine, Nucleic acid related compound; alpha- and gamma-linolenic acid which are chosen from caffeine which is xanthins and those derivatives, and theophylline, Eicosapentaenoic acid and those derivatives, estradiol, ethenylestradiol;

Glycolic acid, Organic acid chosen from citrate, lactic acid, malic acid, tartaric acid, succinic acid, and salicylic acid, and those derivatives; the skin external preparations according to claim 4 which are a kind chosen from a group which consists of hinokitiol and cepharanthin, or two sorts or more.

[Claim 12]A cell activator A placenta extract, extract from hemolysed blood of young calves, a blood serum deproteinization extract, a spleen extract, An egg component, a crest extract, a shell extract, a shell meat extract, royal jelly, a silk protein, its decomposition product, and those derivatives, An extract of animal origin chosen from hemoglobin and its decomposition product, lactoferrin and its decomposition product, and a sepia extract; A yeast extract, An extract from microorganism chosen from a lactic-acid-bacteria extract, a lactobacillus bifidus extract, and fermentation metabolite; An asparagus extract, A ginseng extract, a shiitake mushroom extract, a soybean extract, a sialid extract, A zizyphi fructus extract, a rosemary extract, a garlic extract, a red pepper extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a bud extract, a barley extract, a grape-seeds oil, the U.S. fermentation extract, a lettuce extract, an avocado extract, a Ganoderma extract, and a Cordyceps-sinensis-Berk extract of Buna, or two sorts or more.

[Claim 13]A moisturizer Hyaluronic acid, chondroitin sulfate, dermatan sulfate, a heparan sulfate, Mucopolysaccharides chosen from heparin and a keratan sulfate, and those derivatives; Collagen, Protein chosen from elastin, fibronectin, and a keratin, those derivatives, and hydrolyzate; A glycine, An alanine, valine, isoleucine, serine, threonine, aspartic acid, Glutamic acid, asparagine, glutamine, lysine, hydroxylysine, Arginine, cystein, cystine, methionine, phenylalanine, Tyrosine, proline, hydroxyproline, theanine, ORUCHININ, Amino acid chosen from citrulline and pyrrolidone carboxylic acid, and those derivatives; Sorbitol, Erythritol, malt sugar, maltitol, xylitol, xylose, Trehalose, inositol, glucose, pentaerythritol, Sugars chosen from fructose, sucrose and its ester, dextrin, and its derivative; the skin external preparations according to claim 4 which are a kind chosen from a group which consists of mucin, D-Panthenol and its derivative, urea, phospholipid, a glycolipid, and ceramide, or two sorts or more.

[Claim 14]A moisturizer Honey, a brown sugar extract, an aloe extract, a seaweed extract, a quince extract, A hamamelis extract, a sponge gourd extract, a mallow extract, an apple extract, A grapefruit extract, a prune extract, a lime extract, a yuzu citron extract, The Tilia miqueliana extract, a bramble extract, the Clara extract, a Chinese quince extract, A wheat germ extract, the Artemisiae capillaris flos extract, a sila lily extract, hop extract, A peppermint extract, dokudami extract, a peony extract, a coix seed extract, A lavender extract, an oats extract, a butcher's broom extract, An althea extract, a Hoelen extract, a nettle extract, a fennel extract, A kiwi extract, a cucumber extract, a grape extract, a cactus extract, the Rehmannia Root extract, A field horsetail extract, a cnidium rhizome extract, Mulberry bark extract, a

garden thyme extract, An horse chestnut extract, a peach extract, a rose extract, an apricot extract, a corn extract, Ginger extract, a lemon extract, an orange extract, a strawberry extract, gentian root extract, a common mallow extract, a wild ginger extract, a burdock extract, a HAUCHIMAME extract, an algarroba extract, an ivy extract, a pine extract, a cornflower extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a Sanguisorba officinalis extract and an Ononis spinosa extract, or two sorts or more.

[Claim 15]Skin external preparations of either of the Claims 1-14 whose content of tomato color is 0.0005 to 5 weight % given in a clause.

[Translation done.]

* NOTICES *

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the skin external preparations which can prevent generation of the peroxy lipid within a skin surface and the skin and the inflammation of skin, melanism, a wrinkle, sagging, etc. and which have the outstanding skin aging preventive effect, concerning the skin external preparations containing tomato color.

[0002]

[Description of the Prior Art]Conventionally, various medicinal properties are added to skin external preparations, such as a milky lotion, cream, face toilet, a pack, a charge of washing, foundation, dispersion liquid, and ointment, at these for the purpose of prevention of the degraded phenomenon of the skin, and the improvement of surface deterioration. For example, medicinal properties, such as super-oxide dismutase (SOD), mannitol, allantoin, a ginseng extract, a bovine blood liquid deproteinization extract, and fermentation metabolite, are blended as medicinal properties with active oxygen removal, anti-inflammation, a cell activation operation, etc.

[0003]

[Problem to be solved by the invention]However, in the skin external preparations which blended the above-mentioned medicinal properties, the effect of medicinal properties is not enough, or it deteriorates in pharmaceutical preparation, expected drug effect is not obtained in many cases, and the improvement was desired.

[0004]

[Means for solving problem]In order to solve these problems, as a result of inquiring wholeheartedly, this invention persons found out that the effect that tomato color prevents degraded phenomena, such as generation of the peroxy lipid within a skin surface and the skin and inflammation of skin, melanism, a wrinkle, and sagging, was excellent, and completed this

in skin

invention.

[0005]That is, skin external preparations, wherein this invention contains tomato color as an active principle are provided.

[0006]

[Mode for carrying out the invention]Although the tomato color used for this invention is obtained from the fruits of a tomato [rye copel SHIKAMU ESCA RENTAMU:Lycopersicum esculentum] (Solanaceae) etc., neither a kind nor an origin in particular is limited.

[0007]Although not limited especially as the method of preparation of tomato color, as a suitable method, For example, as it is, after [a certain] carrying out ** proper adding water and considering it as aqueous suspension, centrifugal separation is carried out for the treating material of the pulp of a tomato shown in JP,H9-183914,A, a liquid part is extracted, and the method of carrying out precision filtration of this and obtaining tomato color which is a nontransparent thing is mentioned.

[0008]That is, crushing, grinding, etc. carry out tomato pulp with a conventional method first, a strainer etc. are performed if needed, pericarp, a seed, etc. are removed, tomato treating material is obtained, or this is condensed further if needed and a tomato processing concentrate is obtained. As for tomato processing fluid, it is preferred for a tomato processing concentrate to add the water of about 2 to 5-time capacity preferably about 1.5 to 7 times suitably, and to prepare aqueous suspension as it is. By considering it as aqueous suspension, tasteless odorless tomato color is obtained by the cleaning effect of a lot of water, and the recovery rate of a lycopene complex can be raised.

[0009]The aqueous suspension of the obtained tomato processing fluid or a tomato processing concentrate, Physical detailed processing and/or PEKUTO lyase, a pectinase, cellulase, It processes with a conventional method using plant tissue collapse enzymes, such as hemicellulase, plotty ase, amylase, and lipase, and in a cell, most or since [if it destroys thoroughly,] the lycopene complex in tomato color will become high concentration, it is desirable.

[0010]Subsequently, tomato processing fluid or the above-mentioned aqueous suspension is divided into paste state solid content and the liquid part which contains tomato color in high concentration by centrifugal separation. Although the conditions of centrifugal separation can be chosen suitably, it is preferred to consider it as the high-speed centrifugal separation more than for 10 minutes by more than 3000G generally.

[0011]Since impurity of raw material origin, such as polysaccharide, protein, sugar, and acid, is also contained, precision filtration treatment is performed in the obtained liquid part, and tomato color and the impurity concerned are divided into it. If an about 0.1-10-micrometer particle is separable, the precision filtration can adopt the thing of any systems and can use a commercial micro filter suitably. Although the operating condition of precision filtration can be

set up suitably, generally, the pressure of filtration has a preferred $0.1 - 8.0 \text{ kg/cm}^2$ grade, and the temperature of about $10-80^\circ\text{C}$ is preferred. As for this tomato color, although tomato color is obtained by extracting the nontransparent part divided by precision filtration, it is preferred to heat-sterilize on suitable conditions if needed.

[0012] Thus, the obtained tomato color is using the lycopene complex with a mean particle diameter of about $0.2-10 \text{ micrometers}$ as the main ingredients. A lycopene is a kind of a hydrophobic hydrocarbon system carotenoid compound without a polar group, contain it to animals and plants, especially a tomato mostly, and a lycopene complex, The hydrophobic binding of a tomato lycopene is destroyed and the amphiphilic polymer of the protein of tomato origin or polysaccharide and also a membrane structure object join there together. This lycopene complex shows the solubility and the suspensibility which were dramatically excellent to the aqueous liquid, and since it is tasteless no odor, it has character very desirable as a base of skin external preparations. Therefore, of course in this invention, not tomato color but the lycopene complex which is the main ingredients may be used as an active principle. Even in this case, the method of carrying out separation manufacture of the lycopene complex by using a tomato as a raw material is preferred in respect of yield.

[0013] The content of tomato color in the skin external preparations of this invention is 0.0005 to 5 weight \% (" $\%$ " only shows below) preferably, and is 0.001 to 2% more preferably. If it is this within the limits, tomato color can be blended stably. If the content of the dry solid which is a solute is in a mentioned range when using the extract containing tomato color, the extract concentration will not be limited at all.

[0014] Although the use as natural coloring matter, such as a lip stick, was known as application to the cosmetics of tomato color (refer to JP,H9-183914,A), the skin external preparations which blended tomato color for the other use were not known until now. It will not be found out without this invention persons that antiaging effects exist in tomato color.

[0015] On the other hand, as a desirable mode of the skin external preparations of this invention, when it combines with tomato color, The skin external preparations which blended kinds, such as the medicinal properties which can expect a still higher skin aging preventive effect, for example, an active oxygen remover, an anti-oxidant, an anti-inflammatory agent, ultraviolet inhibitor, a cell activator, and a moisturizer, or two sorts or more can be mentioned. What is shown below, respectively is mentioned as an example of suitable medicinal properties. The salt which can be formed is contained in a "derivative" in various medicinal properties illustrated below.

[0016] (Active oxygen remover) As an active oxygen remover, For example, carotenoid, such as SOD, mannitol, and B-carotene. Astaxanthin, rutin and its derivative, bilirubin, cholesterol, Tryptophan, histidine, quercetin, quercitrin, catechin, and its derivative, Gallic acid and its derivative, glutathione and its derivative, a Scutellaria root extract, A ginkgo tree extract, the

Spatholobus suberectus Dunn extract, a white thorn extract, a mica cuttlefish extract, A creeping saxifrage extract, the Melissa extract, a Geranium thunbergii Sieb. et Zucc. extract, a Moutan bark extract, a parsley extract, a torr MENCHIRA extract, a rakanka extract, a YASHAJITSU extract, Lycium chinense root extract, the Rose Fruit extract, stevia extract, etc. are mentioned. These active oxygen removers can be used combining its kind or two sorts or more.

[0017] Mannitol, B-carotene, astaxanthin, rutin and its derivative, a Scutellaria root extract, a ginkgo tree extract, the Spatholobus suberectus Dunn extract, a creeping saxifrage extract, the Melissa extract, and a Geranium thunbergii Sieb. et Zucc. extract are especially illustrated as a desirable thing among the above-mentioned active oxygen removers.

[0018] (Anti-oxidant) As an anti-oxidant, again, for example Retinol palmitate, Retinol and its derivative, retinal, and its derivatives, such as retinol acetate, Vitamin A, such as dehydroretinal; Thiamin and its derivative, riboflavin, Pyridoxine, such as acetic acid riboflavin, pyridoxine hydrochloride, and pyridoxine dioctanoate. Flavin adenine dinucleotide, cyanocobalamine, folic acid, nicotinamide, Vitamin B, such as nicotinic acid, such as nicotinic acid benzyl, and Kolin; L-ascorbic acid, Pulmitic acid L-ASUKORUBIRU, dipalmitate L-ASUKORUBIRU, Tetraisopulmitic acid L-ASUKORUBIRU, L-ascorbic acid phosphoric acid ester sodium, Vitamin C, such as L-ascorbic acid phosphoric ester magnesium and L-ascorbic acid sulfuric acid ester sodium; Ergocalciferol, Vitamin D, such as cholecalciferol; Di-alpha (beta, gamma)-tocopherol, Vitamin E, such as acetic acid-dl-**-tocopherol, nicotinic acid-dl-**-tocopherol, and linolic acid-dl-**-tocopherol; dibutylhydroxytoluene, butylhydroxyanisole, etc. are mentioned. These anti-oxidants can be used combining its kind or two sorts or more.

[0019] Vitamin C and the derivative of those, vitamin E and the derivative of those, and dibutylhydroxytoluene are especially illustrated as a desirable thing among the above-mentioned anti-oxidants.

[0020] (Anti-inflammatory agent) As an anti-inflammatory agent, for example Dipotassium glycyrrhizinate, Mono- glycyrrhizate ammonium, beta-glycyrrhetic acid, stearyl glycyrrhetic acid, Glycyrrhizic acid or glycyrrhetic acid, and those derivatives, such as 3-succinyl oxy glycyrrhetic acid disodium, Mefenamic acid and its derivative, phenylbutazon and its derivative, indomethacin, and its derivative, Ibuprofen and its derivative, ketoprofen and its derivative, allantoin, and its derivative, A GUAI azulene and its derivative, epsilon-aminocaproic acid, diclofenac sodium, Tranexamic acid and its derivative, the Angelica keiskei extract, an Arnica extract, Bistorta major extract, a curcmae rhizoma extract, a St. John's wort extract, a cork tree bark extract, A chamomile extract, licorice extract, a Lonicera-japonica-thunb extract, a watercress extract, A comfrey extract, a GOKAHI extract, a salvia extract, a lithospermi radix extract, perilla extract, a Betula-alba extract, tea extract, the Calendula officinalis extract, a sambucus extract, a HOOU extract, a Sapindus mukurossi extract,

mugwort extract, a eucalyptus extract, an angericae radix extract, the Astragalus sinicus extract, etc. are mentioned. These anti-inflammatory agents can be used combining its kind or two sorts or more.

[0021]Among the above-mentioned anti-inflammatory agents, as a desirable thing especially Glycyrrhizic acid and its derivative, Glycyrrhetic acid and its derivative, a GUA azulene and its derivative, an Arnica extract, a cork tree bark extract, a chamomile extract, a comfrey extract, a lithospermi radix extract, perilla extact, a Betula-alba extract, and tea extract are illustrated.

[0022](Ultraviolet inhibitor) As ultraviolet inhibitor, for example P aminobenzoic acid (PABA), PABA ethyl, PABA glyceryl, N,N-dimethyl PABA amyl, N,N-dimethyl PABA-2-ethylhexyl, salicylic acid-2-ethylhexyl, Salicylic acid ethylene glycol, salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 4-methoxycinnamic acid ethoxyethyl, 4-methoxycinnamic acid potassium, 4-5-diisopropyl methyl cinnamate, JIPARA methoxycinnamic acid mono-2-ethylhexanoic acid glyceryl, 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxybenzophenone sulfonic acid, 2-hydroxy-4-methoxybenzophenone sulfone sodium, 2,2'-dihydroxy-4,4'-dimethoxybenzophenone and 2,2'-dihydroxy-4,4'-dimethoxybenzophenone 5-sulfone sodium, 2-4-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 2-(2-hydroxy-5-methylphenyl)- Benzotriazol, urocanic acid, ethyl urocanate, 4-t-butyl-4'-methoxy-dibenzoylmethane, titanium oxide, a zinc oxide, iron oxide, cerium oxide, zirconium oxide, etc. are mentioned. These ultraviolet inhibitor can be used combining its kind or two sorts or more.

[0023]Among the above-mentioned ultraviolet inhibitor, as a desirable thing especially Salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxybenzophenone sulfonic acid, 2-hydroxy-4-methoxybenzophenone sulfone sodium, 4-t-butyl-4'-methoxy-dibenzoylmethane, titanium oxide, a zinc oxide, and cerium oxide are illustrated.

[0024](Cell activator) As a cell activator, for example A deoxyribonucleic acid and its derivative, Adenylic acid derivatives, such as adenosine triphosphate, adenosine diphosphate, and adenosine monophosphate, Ribonucleic acid and its derivative; Cyclic AMP, cyclic GMP, Flavin adenine dinucleotide, guanine, adenine, cytosine, thymine, Nucleic acid related compounds which are xanthins and those derivatives, such as caffeine and theophylline; A swine, Placenta extracts, such as a cow, extract from hemolysed blood of young calves, a blood serum deproteinization extract, a spleen extract, Egg components, such as a bird, a crest extract, a shell extract, a shell meat extract, royal jelly, A silk protein, its decomposition product and those derivatives, hemoglobin, and its decomposition product, The extract of the animal origin of lactoferrin and its decomposition product, a sepia extract, etc.; A yeast extract, Extract;alpha- from microorganism and gamma-linolenic acid, such as a lactic-acid-bacteria extract, a lactobacillus bifidus extract, and fermentation metabolite, Organic acid and those

derivatives, such as eicosapentaenoic acid and those derivatives, estradiol, ethenylestradiol; glycolic acid, citrate, lactic acid, malic acid, tartaric acid, succinic acid, and salicylic acid; An asparagus extract, a ginseng extract, a shiitake mushroom extract, A soybean extract, a sialid extract, a zizyphi fructus extract, a rosemary extract, The extract of the vegetable origin of a garlic extract, a red pepper extract, the bud extract of Buna, a barley extract, hinokitiol, cepharanthin, a grape-seeds oil, the U.S. fermentation extract, a lettuce extract, an avocado extract, a Ganoderma extract, a Cordyceps-sinensis-Berk extract, etc., etc. are mentioned. These cell activators can be used combining its kind or two sorts or more.

[0025]Among the above-mentioned cell activators, as a desirable thing especially Adenosine triphosphate, Adenylic acid derivatives, such as adenosine diphosphate and adenosine monophosphate, caffeine, A placenta extract, a blood deproteinization extract, royal jelly, a shell extract, a shell meat extract, Lactoferrin and its decomposition product, a yeast extract, a lactic-acid-bacteria extract, a lactobacillus bifidus extract, alpha- and gamma-linolenic acid, eicosapentaenoic acid and those derivatives, estradiol, ethenylestradiol, glycolic acid, lactic acid, malic acid, salicylic acid and those derivatives, a barley extract, a rosemary extract, and a ginseng extract are illustrated.

[0026](Moisturizer) As a moisturizer, a mucopolysaccharide, protein, sugars, amino acid, sugars, a plant extract, etc. which are used for skin external preparations from the former are mentioned.

[0027]As an example of a moisturizer, hyaluronic acid, chondroitin sulfate, dermatan sulfate, Mucopolysaccharides and those derivatives, such as a heparan sulfate, heparin, and a keratan sulfate; Collagen, Protein, those derivatives, and hydrolyzates, such as elastin, fibronectin, and a keratin; A glycine, An alanine, valine, isoleucine, serine, threonine, aspartic acid, Glutamic acid, asparagine, glutamine, lysine, hydroxylysine, Arginine, cystein, cystine, methionine, phenylalanine, Tyrosine, proline, hydroxyproline, theanine, ORUCHININ, Amino acid and those derivatives, such as citrulline and pyrrolidone carboxylic acid; Sorbitol, Erythritol, malt sugar, maltitol, xylitol, xylose, Trehalose, inositol, glucose, pentaerythritol, Fructose, sucrose and its ester, dextrin and its derivative, honey, Sugars, such as a brown sugar extract; Mucin, D-Panthenol and its derivative, urea, phospholipid, a glycolipid, ceramide, an aloe extract, a seaweed extract, a quince extract, a hamamelis extract, a sponge gourd extract, a mallow extract, an apple extract, A grapefruit extract, a prune extract, a lime extract, a yuzu citron extract, The Tilia miqueliana extract, a bramble extract, the Clara extract, a Chinese quince extract, A wheat germ extract, the Artemisiae capillaris flos extract, a sila lily extract, hop extract, A peppermint extract, dokudami extract, a peony extract, a coix seed extract, A lavender extract, an oats extract, a butcher's broom extract, An althea extract, a Hoelen extract, a nettle extract, a fennel extract, A kiwi extract, a cucumber extract, a grape extract, a cactus extract, the Rehmannia Root extract, A field horsetail extract, a cnidium rhizome

extract, Mulberry bark extract, a garden thyme extract, An horse chestnut extract, a peach extract, a rose extract, an apricot extract, a corn extract, Ginger extract, a lemon extract, an orange extract, a strawberry extract, gentian root extract, A common mallow extract, a wild ginger extract, a burdock extract, a HAUCHIMAME extract, an algarroba extract, an ivy extract, a pine extract, a cornflower extract, the *Sanguisorba officinalis* extract, the *Ononis spinosa* extract, etc. are mentioned. These moisturizers can be used combining its kind or two sorts or more.

[0028]Among the above-mentioned moisturizers, as a desirable thing especially Hyaluronic acid, chondroitin sulfate, and those derivatives, Collagen, elastin, keratins, those derivatives, and hydrolyzate, A glycine, serine, arginine, glutamine, glutamic acid, theanine, Proline, the amino acid chosen from pyrrolidone carboxylic acid, and those derivatives, Sorbitol, erythritol, xylitol, xylose, trehalose, Inositol, glucose, mucin, D-Panthenol and its derivative, urea, phospholipid, a seaweed extract, a quince extract, the *Tilia miqueliana* extract, an althea extract, a hamamelis extract, and a coix seed extract are illustrated.

[0029]Although the loadings of the above-mentioned medicinal properties used combining tomato color are different according to the kind in the skin external preparations of this invention, In the range illustrated to the following table 1, the temporal stability of tomato color in the pharmaceutical preparation itself and pharmaceutical preparation is not affected, And especially since the manifestation of more outstanding an active oxygen removing effect, the antioxidation effect, the anti-inflammation effect, an ultraviolet-rays preventive effect, the cell activation effect and a moisturizing effect, or antiaging effects is obtained, it is desirable. When using a plant extract etc. as each optional component with an extract, what is necessary is just the following ranges as a dry solid.

[0030]

[Table 1]

	medicinal properties	Desirable loadings (%)	Especially desirable loadings (%)
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	Active oxygen remover	0.00001-5	0.001-3
	Anti-oxidant	0.00001-5	0.001 to 3
	anti-inflammatory agent	0.00001-5	0.001-3
	Ultraviolet inhibitor	0.01-30	0.1-20
	Cell activator	0.0001-5	0.001-3
	Moisturizer	0.0001-5	0.001-3

-----[0031]

Especially as an example of the form of skin external preparations, it is not limited but For example, a milky lotion, cream, It can be considered as cosmetics, such as makeup cosmetics, such as skin care cosmetics, such as face toilet, a pack, and a charge of washing, foundation, eye shadow, and mascara, dispersion liquid, ointment, liquids for external use, and cream pharmaceuticals, external use drugs, etc.

[0032]The ingredient usually used for skin external preparations, such as cosmetics and drugs, as other optional components according to the form of skin external preparations, For

example, water (for example, alkali simple hot spring water, deep sea water, purified water, etc. are included), Lower alcohol, polyhydric alcohol, fats and oils, a low, straight mineral oil, fatty acid, a granular material, Metal soap, a pH adjuster, a surface-active agent, a thickening agent, a pigment, vegetation, or the extract of animal system raw material origin, Vitamins, hormone, a sterilizing disinfectant, a keratolytic drug, an enzyme, a pick-me-up, a stabilizing agent, a metal ion chelating agent, a circulation accelerator, a whitening agent, an astringent, an antiseborrheic drug, oil refinement, a deodorizer, perfume, etc. can be blended.

[0033]

[Working example]Next, although a reference example, the example of an examination, and an embodiment are given and this invention is explained still in detail, this invention is not restrained at all by these.

[0034]Manufacture of reference-example 1 tomato color: The pulp of the tomato was mashed with the conventional method, it strained, moisture was adjusted except for pericarp, a seed, etc., and the aqueous suspension of the tomato processing concentrate was prepared. Processed this with the grinding machine, the tissue and the cell of tomato fruit were made to collapse, and tomato treating material was obtained. The tissue of tomato fruit and the collapse reaction of the cell were performed adding and agitating plant tissue collapse enzyme PEKUTO lyase on conditions with a temperature of 30 °C to this treating material, and tissue and a cell obtained the tomato treating material which collapsed thoroughly. assuming the paste state sediment which is missing from a high-speed centrifuge and contains a part for pulp thickly, and dark red, after heat-treating this treating material and being deactivated in this additive enzyme -- a lycopene complex -- 15-mg% -- it separated into the liquid part to contain. Transmission processing of the obtained liquid part was carried out by the micro filter, and tomato color containing about 1% of insoluble solid matter was obtained about 300 mg of lycopene complex% which has paste state dark red from the nontransparent side of a micro filter.

[0035]Example [of an examination] 1 peroxy lipid inhibition test: The lipid-peroxidation inhibition test compared the oxidation induction period using the 679 type Runcie mat apparatus (made by Metrohm). That is, setting to a reaction vessel and heating at 120 °C, after mixing the tomato color manufactured by the reference example 1 in the castor oil 3g so that it may become 0.1%, air is sent in and a sample is oxidized compulsorily. The decomposition product generated by oxidation was caught underwater and change of conductivity was measured by the electrode. DI-***-tocopherol of the concentration was used as contrast. The result is shown in Table 2.

[0036](Result)

[Table 2]

----- trial Charge Name Oxidation induction period (time)

-----, tomato color (*1) 30.4 dl-**-tocopherol (*2) 20.5 -----

---- -- thing *2 manufactured by the *1 reference example 1 -- the Wako Pure Chem make
[0037]Tomato color of the reference example 1 showed high peroxy lipid control ability so that clearly from the result of Table 2.

[0038]Embodiment 1 cream: Cream was prepared by the presentation and the following process which are shown in Table 3, and the beautiful skin effect and antiaging effects were investigated.

[0039](Presentation)

[Table 3]

成 分 (%)	本 発 明 品							比較品
	1	2	3	4	5	6	7	1
(1) ミツロウ	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
(2) セタノール	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(3) 還元ラノリン	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(4) スクワラン	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
(5) 親油性モノステアリン酸グリセリル	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
(6) ポリオキシエチレンソルビタンモノラウレート (20 E. O)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
(7) トマト色素*1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	—
(8) オウゴン抽出物*2	—	5.0	—	—	—	—	—	—
(9) アロエ抽出物*3	—	—	5.0	—	—	—	—	—
(10) ビタミンEアセテート*4	—	—	—	0.1	—	—	—	—
(11) 4-メトキシケイ皮酸-2-エチルヘキシル*5	—	—	—	—	2.0	—	—	—
(12) ローズマリー抽出物*6	—	—	—	—	—	5.0	—	—
(13) コンドロイチン硫酸ナトリウム*7	—	—	—	—	—	—	0.1	—
(14) 防腐剤	適量	適量	適量	適量	適量	適量	適量	適量
(15) 香料	適量	適量	適量	適量	適量	適量	適量	適量
(16) 精製水	残量	残量	残量	残量	残量	残量	残量	残量

*1 参考例1で製造したもの

*2 一丸ファルコス社製

*3 丸善製薬社製

*4 エーザイ社製

*5 BASF社製

*6 丸善製薬社製

*7 生化学工業社製

[0040](Process)

A. Ingredient (1) - (6), (10), (11), and (14) are mixed and heated, and it keeps at 70 **.

B. Mix and heat an ingredient (16) and keep at 70 **.

C. Add B to A, and cool after mixing.

D. Ingredient (7) - (9), (12), (13), and (15) were added to C, and cream was obtained.

[0041](Test method) 15 women aged [per subject cream] from 28 to 55 were made into a group, and the optimum dose of subject cream was applied to the face after washing its face over 2 times, a morning and night, and 12 weeks every day. The following standards estimated the lustrous skin and antiaging effects by spreading.

[0042](Valuation basis)

inside of Beautiful skin effect:<evaluation> < **> -- an owner -- Effect ; The dullness of skin stopped being conspicuous.

Slightly effective ; The dullness of skin stopped being not much conspicuous.

Invalid ; with a use front and no change.

[0043]inside of Antiaging-effects:<evaluation> < **> -- an owner -- Effect ; The beam of skin and gloss have been improved.

Slightly effective ; The beam of skin and gloss have been improved a little.

Invalid ; with a use front and no change.

[0044](Result)

[Table 4]

		本 発 明 品							(人数)
評 価		1	2	3	4	5	6	7	比較品
美肌 効果	有 効	10	13	13	14	14	14	13	0
	やや有効	4	2	2	1	1	1	2	3
	無 効	1	0	0	0	0	0	0	12
老化 防止 効果	有 効	10	13	13	14	14	14	14	0
	やや有効	3	2	2	1	1	1	1	3
	無 効	2	0	0	0	0	0	0	12

[0045]As shown in the result of Table 4, this invention constituent which blended the drug effect agent with the tomato color independent and tomato color which are represented by this invention article 1-7, By applying ***** to the skin, it became clear prevention of generating of "dullness" etc. of skin and for the beam of skin and gloss to be improved and to prevent aging of the skin, while being able to improve and considering it as a beautiful skin.

[0046]Embodiment 2 face toilet: Face toilet was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Glycerin 5.0(2)1,3-butylene-glycol . 6.5(3) polyoxyethylene (20E.O.) sorbitan . 1.2 Mono-laurate ester (4) ethyl alcohol . 5.0 -- (5)2-hydroxy-4-methoxybenzophenone -5-sulfuric acid (*1) 1.0(6) tomato-color (*2) 0.001 (7) antiseptic ** Quantity (8) perfume ** Quantity (9) purified water residue *1 -- Merck Co. make [] -- what was manufactured by the *2 reference example 1[0047](Process)

A. Carry out the mixture solution of the ingredient (3), (7), and (8).

B. Carry out the mixture solution of an ingredient (1), (2), (4), (5), (6), and (9).

C. A and B were mixed, it was made uniform and face toilet was obtained.

[0048]Embodiment 3 milky lotion: The milky lotion was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Polyoxyethylene (10E.O.) sorbitan . 1.0 Monostearate (2) polyoxyethylene (60E.O.) sorbitan 0.5 Tetra oleate (3) glyceryl monostearate 1.0 (4) stearic-acid 0.5 (5) behenyl-alcohol 0.5 (6) squalane . 8.0 (7) antiseptics ** Quantity (8) tomato color (*1). 0.5 (9) dipotassium glycyrrhizinate (*2). 0.5 (10) hyaluronate sodium (*3). 0.5 (11) carboxyvinyl-polymer 0.1 (12) sodium-hydroxide 0.05 (13) ethyl-alcohol 5.0 (14) purified water Residue (15) perfume Optimum dose Thing *2 manufactured by the *1 reference example 1 *3 by Maruzen Pharmaceuticals Co., Ltd. Kewpie company make[0049](Process)

A. Carry out heating mixing of an ingredient (9) and (11) - (14), and keep at 70 **.

B. Ingredient (1) Heating mixing of - (7) is carried out, and it keeps at 70 **.

C. Add A to B, mix and emulsify uniformly.

D. (8), (10), and (15) were added after cooling, C was mixed uniformly, and the milky lotion was obtained.

[0050]Embodiment 4 cream: Cream was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Polyoxyethylene (40E.O.) monostearate . 2.0 (2) glycerol monostearate (self-emulsification type). 5.0 (3) stearic-acid 5.0 (4) behenyl-alcohol . a 0.5 (5) squalane 15.0(6) isooctane acid Sept lles 5.0(7) antiseptic optimum dose (8)1,3-butylene-glycol 5.0 (9) tomato-color (*1) 1.0 (10) Spatholobus suberectus Dunn extract (*2) 1.0 (11) ginseng extract (*3). 1.0 (12) keratin hydrolyzing liquid (*4) 1.0 (13) purified water ** Quantity (14) perfume ** quantity [] -- thing *2 manufactured by the *1 reference example 1 -- *3 by Maruzen Pharmaceuticals Co., Ltd. -- Maruzen Pharmaceuticals Co., Ltd. make [] -- *4 Narikazu -- transformation -- make[0051] (Process)

A. Ingredient (1) The heating and dissolving of - (7) are carried out at 70 **.

B. Heat a part of ingredient (8) and (13) at 70 **.

C. The remainder of ingredient (9) - (12) and (13) and (14) were added having added A to B and cooling, and cream was obtained.

[0052]Each of face toilet of Embodiment 2, milky lotions of Embodiment 3, and cream of Embodiment 4 is used as a beautiful skin with a beam or gloss while it prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the skin.

[0053]Embodiment 5 pack: The pack was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) polyvinyl alcohol 20.0 -- a (2) ethyl-alcohol 20.0 (3) glycerin 5.0(4) kaolin 6.0(5) tomato-color (*1) 2.0(6) chamomillae-flos extract (*2) -- 2.0 (7) yeast extracts (*3). 1.0 (8) antiseptics ** Quantity (9) perfume ** Quantity (10) purified water Residue *3 by a thing *2 A.M.I. company manufactured by the *1 reference example 1 Made in Nikko Chemicals[0054](Process)

A. Mix an ingredient (1), (3), (4), and (10), and heat and agitate at 70 **.

B. Mix the ingredient (2) and (8).

C. The above-mentioned B was added to previous A, after mixing, it cooled, (5), (6), (7), and (9) were distributed uniformly, and the pack was obtained.

[0055]By applying to the skin, the pack of this invention suppresses the inflammation of the skin by peroxy lipid, prevents degraded phenomena, such as melanism, a wrinkle, and sagging, and prevents "dullness" of skin and is used as a beautiful skin with a transparent feeling.

[0056]Embodiment 6 facial liquid foundation: Facial liquid foundation was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Lanolin 7.0 (2) liquid-paraffin . 5.0 (3) stearic-acid 2.0 (4) cetanol . 1.0(5)4-methoxycinnamic acid-2-ethylhexyl (*1) 5.0 (6) glycerin 5.0 (7) triethanolamine 1.0 (8) carboxymethyl-cellulose 0.7 (9) purified water ** Quantity (10) mica . The 15.0 talc [(11)] 6.0 (12) color-pigment 6.0 (13) tomato-color (*2) 0.02 (14) Saxifraga-stolonifera-extract (*3) (15) 0.02 perfume Optimum dose *1 BASF A.G. make Thing *3 ICHIMARU PHARCOS CO., LTD. make manufactured by the *2 reference example 1[0057](Process)

A. Ingredient (1) - (5) is mixed and heated and it keeps at 70 **.

B. Add ingredient (10) - (12) to A, and mix uniformly.

C. Ingredient (6) - (9) is dissolved uniformly and it keeps at 70 **.

D. Add C to B and emulsify uniformly.

E. Ingredient (13) - (15) was added for D after cooling, and facial liquid foundation was obtained.

[0058]The facial liquid foundation of this invention prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the

skin.

[0059]Embodiment 7 gel ointment: Gel ointment was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Carboxyvinyl polymer 1.0. (2) Triethanolamine 1.0 (3) ethyl-alcohol . 20.0 (4) tomato color (*1) -- 0.002 (5) mannitol (*2) (6) 0.5 collagen (*3) -- 0.5 (7) purified water ** quantity [] -- thing *2 manufactured by the *1 reference example 1 -- *3 by a sigma company -- Koken CO., LTD. make[0060](Process)

A. An ingredient (1) and (3) The mixture solution of - (7) is carried out.

B. The ingredient (2) was added to A, and it mixed, and was made uniform, and gel ointment was obtained.

[0061]The gel ointment of this invention is used as a beautiful skin with a beam or gloss while it prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the skin.

[0062]

[Effect of the Invention]Like the above, the skin external preparations containing tomato color of this invention have very high improvement and preventive effect to aging prevention phenomena, such as generation of the peroxy lipid within a skin surface and the skin and inflammation of skin, melanism, a wrinkle, and sagging.

In cosmetics or Medical Science Division, it is very useful.

with -- Top

[Translation done.]

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- 3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art]Conventionally, various medicinal properties are added to skin external preparations, such as a milky lotion, cream, face toilet, a pack, a charge of washing, foundation, dispersion liquid, and ointment, at these for the purpose of prevention of the degraded phenomenon of the skin, and the improvement of surface deterioration. For example, medicinal properties, such as super-oxide dismutase (SOD), mannitol, allantoin, a ginseng extract, a bovine blood liquid deproteinization extract, and fermentation metabolite, are blended as medicinal properties with active oxygen removal, anti-inflammation, a cell activation operation, etc.

[Translation done.]

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EXAMPLE

[Working example]Next, although a reference example, the example of an examination, and an embodiment are given and this invention is explained still in detail, this invention is not restrained at all by these.

[0034]Manufacture of reference-example 1 tomato color: The pulp of the tomato was mashed with the conventional method, it strained, moisture was adjusted except for pericarp, a seed, etc., and the aqueous suspension of the tomato processing concentrate was prepared. Processed this with the grinding machine, the tissue and the cell of tomato fruit were made to collapse, and tomato treating material was obtained. The tissue of tomato fruit and the collapse reaction of the cell were performed adding and agitating plant tissue collapse enzyme PEKUTO lyase on conditions with a temperature of 30 ** to this treating material, and tissue and a cell obtained the tomato treating material which collapsed thoroughly. assuming the paste state sediment which is missing from a high-speed centrifuge and contains a part for pulp thickly, and dark red, after heat-treating this treating material and being deactivated in this additive enzyme -- a lycopene complex -- 15-mg% -- it separated into the liquid part to contain. Transmission processing of the obtained liquid part was carried out by the micro filter, and tomato color containing about 1% of insoluble solid matter was obtained about 300 mg of lycopene complex% which has paste state dark red from the nontransparent side of a micro filter.

[0035]Example [of an examination] 1 peroxy lipid inhibition test: The lipid-peroxidation inhibition test compared the oxidation induction period using the 679 type Runcie mat apparatus (made by Metrohm). That is, setting to a reaction vessel and heating at 120 **, after mixing the tomato color manufactured by the reference example 1 in the castor oil 3g so that it may become 0.1%, air is sent in and a sample is oxidized compulsorily. The decomposition product generated by oxidation was caught underwater and change of conductivity was measured by the electrode. DI-**-tocopherol of the concentration was used as contrast. The

result is shown in Table 2.

[0036](Result)

[Table 2]

trial	Charge Name	Oxidation induction period (time)
-----	tomato color (*1)	30.4 dl-**-tocopherol (*2) 20.5 -----

---- -- thing *2 manufactured by the *1 reference example 1 -- the Wako Pure Chem make

[0037]Tomato color of the reference example 1 showed high peroxy lipid control ability so that clearly from the result of Table 2.

[0038]Embodiment 1 cream: Cream was prepared by the presentation and the following process which are shown in Table 3, and the beautiful skin effect and antiaging effects were investigated.

[0039](Presentation)

[Table 3]

成 分 (%)	本 発 明 品							比較品
	1	2	3	4	5	6	7	1
(1) ミツロウ	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
(2) セタノール	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(3) 還元ラノリン	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
(4) スクワラン	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
(5) 親油性モノステアリン酸グリセリル	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
(6) ポリオキシエチレンソルビタンモノラウレート (20 E. O)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
(7) トマト色素*1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	—
(8) オウゴン抽出物*2	—	5.0	—	—	—	—	—	—
(9) アロエ抽出物*3	—	—	5.0	—	—	—	—	—
(10) ビタミンEアセテート*4	—	—	—	0.1	—	—	—	—
(11) 4-メトキシケイ皮酸-2-エチルヘキシル*5	—	—	—	—	2.0	—	—	—
(12) ローズマリー抽出物*6	—	—	—	—	—	5.0	—	—
(13) コンドロイチン硫酸ナトリウム*7	—	—	—	—	—	—	0.1	—
(14) 防腐剤	適量	適量	適量	適量	適量	適量	適量	適量
(15) 香料	適量	適量	適量	適量	適量	適量	適量	適量
(16) 精製水	残量	残量	残量	残量	残量	残量	残量	残量

*1 参考例1で製造したもの

*2 一丸ファルコス社製

*3 丸善製薬社製

*4 エーザイ社製

*5 BASF社製

*6 丸善製薬社製

*7 生化学工業社製

[0040](Process)

A. Ingredient (1) - (6), (10), (11), and (14) are mixed and heated, and it keeps at 70 **.

B. Mix and heat an ingredient (16) and keep at 70 **.

C. Add B to A, and cool after mixing.

D. Ingredient (7) - (9), (12), (13), and (15) were added to C, and cream was obtained.

[0041](Test method) 15 women aged [per subject cream] from 28 to 55 were made into a group, and the optimum dose of subject cream was applied to the face after washing its face over 2 times, a morning and night, and 12 weeks every day. The following standards estimated the lustrous skin and antiaging effects by spreading.

[0042](Valuation basis)

inside of Beautiful skin effect:<evaluation> < **> -- an owner -- Effect ; The dullness of skin stopped being conspicuous.

Slightly effective ; The dullness of skin stopped being not much conspicuous.

Invalid ; with a use front and no change.

[0043]inside of Antiaging-effects:<evaluation> < **> -- an owner -- Effect ; The beam of skin and gloss have been improved.

Slightly effective ; The beam of skin and gloss have been improved a little.

Invalid ; with a use front and no change.

[0044](Result)

[Table 4]

(人数)

評 価		本 発 明 品							比較品
		1	2	3	4	5	6	7	1
美肌	有 効	1 0	1 3	1 3	1 4	1 4	1 4	1 3	0
	やや有効	4	2	2	1	1	1	2	3
効果	無 効	1	0	0	0	0	0	0	1 2
老化	有 効	1 0	1 3	1 3	1 4	1 4	1 4	1 4	0
	やや有効	3	2	2	1	1	1	1	3
効果	無 効	2	0	0	0	0	0	0	1 2

[0045]As shown in the result of Table 4, this invention constituent which blended the drug effect agent with the tomato color independent and tomato color which are represented by this invention article 1-7, By applying ***** to the skin, it became clear prevention of generating of "dullness" etc. of skin and for the beam of skin and gloss to be improved and to prevent aging of the skin, while being able to improve and considering it as a beautiful skin.

[0046]Embodiment 2 face toilet: Face toilet was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Glycerin 5.0(2)1,3-butylene-glycol . 6.5(3) polyoxyethylene (20E.O.) sorbitan . 1.2 Mono-laurate ester (4) ethyl alcohol . 5.0 -- (5)2-hydroxy-4-methoxybenzophenone -5-sulfuric acid (*1) 1.0(6) tomato-color (*2) 0.001 (7) antiseptic ** Quantity (8) perfume ** Quantity (9) purified water residue *1 -- Merck Co. make [] -- what was manufactured by the *2 reference example 1[0047](Process)

A. Carry out the mixture solution of the ingredient (3), (7), and (8).

B. Carry out the mixture solution of an ingredient (1), (2), (4), (5), (6), and (9).

C. A and B were mixed, it was made uniform and face toilet was obtained.

[0048]Embodiment 3 milky lotion: The milky lotion was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Polyoxyethylene (10E.O.) sorbitan . 1.0 Monostearate (2) polyoxyethylene (60E.O.) sorbitan 0.5 Tetra oleate (3) glyceryl monostearate 1.0 (4) stearic-acid 0.5 (5) behenyl-alcohol 0.5 (6) squalane . 8.0 (7) antiseptics ** Quantity (8) tomato color (*1). 0.5 (9) dipotassium glycyrrhizinate (*2). 0.5 (10) hyaluronate sodium (*3). 0.5 (11) carboxyvinyl-polymer 0.1 (12) sodium-hydroxide 0.05 (13) ethyl-alcohol 5.0 (14) purified water Residue (15) perfume Optimum dose Thing *2 manufactured by the *1 reference example 1 *3 by Maruzen Pharmaceuticals Co., Ltd. Kewpie company make[0049](Process)

A. Carry out heating mixing of an ingredient (9) and (11) - (14), and keep at 70 **.

B. Ingredient (1) Heating mixing of - (7) is carried out, and it keeps at 70 **.

C. Add A to B, mix and emulsify uniformly.

D. (8), (10), and (15) were added after cooling, C was mixed uniformly, and the milky lotion was obtained.

[0050]Embodiment 4 cream: Cream was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Polyoxyethylene (40E.O.) monostearate . 2.0 (2) glycerol monostearate (self-emulsification type). 5.0 (3) stearic-acid 5.0 (4) behenyl-alcohol . a 0.5 (5) squalane 15.0(6) isooctane acid Sept lles 5.0(7) antiseptic optimum dose (8)1,3-butylene-glycol 5.0 (9) tomato-color (*1) 1.0 (10) Spatholobus suberectus Dunn extract (*2) 1.0 (11) ginseng extract (*3). 1.0 (12) keratin hydrolyzing liquid (*4) 1.0 (13) purified water ** Quantity (14) perfume ** quantity [] -- thing *2 manufactured by the *1 reference example 1 -- *3 by Maruzen Pharmaceuticals Co., Ltd. -- Maruzen Pharmaceuticals Co., Ltd. make [] -- *4 Narikazu -- transformation -- make[0051] (Process)

A. Ingredient (1) The heating and dissolving of - (7) are carried out at 70 **.

B. Heat a part of ingredient (8) and (13) at 70 **.

C. The remainder of ingredient (9) - (12) and (13) and (14) were added having added A to B and cooling, and cream was obtained.

[0052]Each of face toilet of Embodiment 2, milky lotions of Embodiment 3, and cream of Embodiment 4 is used as a beautiful skin with a beam or gloss while it prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the skin.

[0053]Embodiment 5 pack: The pack was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) polyvinyl alcohol 20.0 -- a (2) ethyl-alcohol 20.0 (3) glycerin 5.0(4) kaolin 6.0(5) tomato-color (*1) 2.0(6) chamomillae-flos extract (*2) -- 2.0 (7) yeast extracts (*3). 1.0 (8) antiseptics ** Quantity (9) perfume ** Quantity (10) purified water Residue *3 by a thing *2 A.M.I. company manufactured by the *1 reference example 1 Made in Nikko Chemicals[0054](Process)

A. Mix an ingredient (1), (3), (4), and (10), and heat and agitate at 70 **.

B. Mix the ingredient (2) and (8).

C. The above-mentioned B was added to previous A, after mixing, it cooled, (5), (6), (7), and (9) were distributed uniformly, and the pack was obtained.

[0055]By applying to the skin, the pack of this invention suppresses the inflammation of the skin by peroxy lipid, prevents degraded phenomena, such as melanism, a wrinkle, and sagging, and prevents "dullness" of skin and is used as a beautiful skin with a transparent feeling.

[0056]Embodiment 6 facial liquid foundation: Facial liquid foundation was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Lanolin 7.0 (2) liquid-paraffin . 5.0 (3) stearic-acid 2.0 (4) cetanol . 1.0(5)4-methoxycinnamic acid-2-ethylhexyl (*1) 5.0 (6) glycerin 5.0 (7) triethanolamine 1.0 (8) carboxymethyl-cellulose 0.7 (9) purified water ** Quantity (10) mica . The 15.0 talc [(11)] 6.0 (12) color-pigment 6.0 (13) tomato-color (*2) 0.02 (14) Saxifraga-stolonifera-extract (*3) (15) 0.02 perfume Optimum dose *1 BASF A.G. make Thing *3 ICHIMARU PHARCOS CO., LTD. make manufactured by the *2 reference example 1[0057](Process)

A. Ingredient (1) - (5) is mixed and heated and it keeps at 70 **.

B. Add ingredient (10) - (12) to A, and mix uniformly.

C. Ingredient (6) - (9) is dissolved uniformly and it keeps at 70 **.

D. Add C to B and emulsify uniformly.

E. Ingredient (13) - (15) was added for D after cooling, and facial liquid foundation was obtained.

[0058]The facial liquid foundation of this invention prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the skin.

[0059]Embodiment 7 gel ointment: Gel ointment was prepared by the formula and the following process which are shown below.

(Formula) (%)

(1) Carboxyvinyl polymer 1.0. (2) Triethanolamine 1.0 (3) ethyl-alcohol . 20.0 (4) tomato color (*1) -- 0.002 (5) mannitol (*2) (6) 0.5 collagen (*3) -- 0.5 (7) purified water ** quantity [] -- thing *2 manufactured by the *1 reference example 1 -- *3 by a sigma company -- Koken CO., LTD. make[0060](Process)

A. An ingredient (1) and (3) The mixture solution of - (7) is carried out.

B. The ingredient (2) was added to A, and it mixed, and was made uniform, and gel ointment was obtained.

[0061]The gel ointment of this invention is used as a beautiful skin with a beam or gloss while it prevents degraded phenomena, such as inflammation of the skin by peroxy lipid, melanism, a wrinkle, and sagging, by applying to the skin.

[Translation done.]

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CLAIMS

[Claim(s)]

[Claim 1]Skin external preparations containing tomato color as an active principle.

[Claim 2]The skin external preparations according to claim 1 which are that to which tomato color uses as the main ingredients a lycopene complex obtained by centrifuging tomato treating material, extracting a liquid part, carrying out precision filtration of this and extracting a nontransparent thing.

[Claim 3]The skin external preparations according to claim 1 or 2 which are an aging prevention cosmetic.

[Claim 4]Skin external preparations given [of the Claims 1-3 containing a kind of medicinal properties chosen from a group which consists of an active oxygen remover, an anti-oxidant, an anti-inflammatory agent, ultraviolet inhibitor, a cell activator, and a moisturizer, or two sorts or more / one] in a clause.

[Claim 5]An active oxygen remover Super-oxide dismutase (SOD), Mannitol, carotenoid, astaxanthin, rutin, and its derivative, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of bilirubin, cholesterol, tryptophan, histidine, quercetin, quercitrin, catechin and its derivative, gallic acid, its derivative, glutathione, and its derivative, or two sorts or more.

[Claim 6]An active oxygen remover A Scutellaria root extract, a ginkgo tree extract, the Spatholobus suberectus Dunn extract, A white thorn extract, a mica cuttlefish extract, a creeping saxifrage extract, the Melissa extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a Geranium thunbergii Sieb. etZucc. extract, a Moutan bark extract, a parsley extract, a torr MENCHIRA extract, a rakanka extract, a YASHAJITSU extract, Lycium chinense root extract, stevia extract, and a Rose Fruit extract, or two sorts or more.

[Claim 7]An anti-oxidant Vitamin A and those derivatives, vitamin B, and those derivatives, The

skin external preparations according to claim 4 which are a kind chosen from a group which consists of vitamin C and those derivatives, vitamin D and those derivatives, vitamin E and those derivatives, dibutylhydroxytoluene, and butylhydroxyanisole, or two sorts or more.

[Claim 8]An anti-inflammatory agent Glycyrrhizic acid and its derivative, glycyrrhetic acid, and its derivative, Mefenamic acid and its derivative, phenylbutazon and its derivative, indomethacin, and its derivative, Ibuprofen and its derivative, ketoprofen and its derivative, allantoin, and its derivative, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a GUAI azulene and its derivative, epsilon-aminocaproic acid, diclofenac sodium, tranexamic acid, and its derivative, or two sorts or more.

[Claim 9]An anti-inflammatory agent The Angelica keiskei extract, an Arnica extract, Bistorta major extract, A curcmae rhizoma extract, a St. John's wort extract, a cork tree bark extract, a chamomile extract, Licorice extract, a Lonicera-japonica-thunb extract, a watercress extract, a comfrey extract, A GOKAHI extract, a salvia extract, a lithospermi radix extract, perilla extract, a Betula-alba extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of tea extract, the Calendula officinalis extract, a sambucus extract, a HOOU extract, a Sapindus mukurossi extract, mugwort extract, a eucalyptus extract, an angericae radix extract, and an Astragalus sinicus extract, or two sorts or more.

[Claim 10]Ultraviolet inhibitor P aminobenzoic acid (PABA), PABA ethyl, PABA glyceryl, N,N-dimethyl PABA amyl, and N,N-dimethyl PABA-2-ethylhexyl, Salicylic acid-2-ethylhexyl, salicylic acid ethylene glycol, Salicylic acid gay menthyl, 4-methoxycinnamic acid-2-ethylhexyl, 4-methoxycinnamic acid ethoxyethyl, 4-methoxycinnamic acid potassium, 4-5-diisopropyl methyl cinnamate, JIPARA methoxycinnamic acid mono-2-ethylhexanoic acid glyceryl, 2-hydroxy-4-methoxybenzophenone, 2-hydroxy-4-methoxybenzophenone sulfonic acid, 2-hydroxy-4-methoxybenzophenone sulfone sodium, 2,2'-dihydroxy-4,4'-dimethoxybenzophenone and 2,2'-dihydroxy-4,4'-dimethoxybenzophenone 5-sulfone sodium, 2-4-dihydroxybenzophenone, 2,2',4,4'-tetrahydroxybenzophenone, 2-(2-hydroxy-5-methylphenyl)- Benzotriazol, urocanic acid, ethyl urocanate, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of 4-t-butyl-4'-methoxy-dibenzoylmethane, titanium oxide, a zinc oxide, iron oxide, cerium oxide, and zirconium oxide, or two sorts or more.

[Claim 11]A cell activator A deoxyribonucleic acid and its derivative, adenosine triphosphate, An adenylic acid derivative chosen from adenosine diphosphate and adenosine monophosphate, Ribonucleic acid and its derivative; Cyclic AMP, cyclic GMP, Flavin adenine dinucleotide, guanine, adenine, cytosine, thymine, Nucleic acid related compound; alpha- and gamma-linolenic acid which are chosen from caffeine which is xanthins and those derivatives, and theophylline, Eicosapentaenoic acid and those derivatives, estradiol, ethenylestradiol;

Glycolic acid, Organic acid chosen from citrate, lactic acid, malic acid, tartaric acid, succinic acid, and salicylic acid, and those derivatives; the skin external preparations according to claim 4 which are a kind chosen from a group which consists of hinokitiol and cepharanthin, or two sorts or more.

[Claim 12]A cell activator A placenta extract, extract from hemolysed blood of young calves, a blood serum deproteinization extract, a spleen extract, An egg component, a crest extract, a shell extract, a shell meat extract, royal jelly, a silk protein, its decomposition product, and those derivatives, An extract of animal origin chosen from hemoglobin and its decomposition product, lactoferrin and its decomposition product, and a sepia extract; A yeast extract, An extract from microorganism chosen from a lactic-acid-bacteria extract, a lactobacillus bifidus extract, and fermentation metabolite; An asparagus extract, A ginseng extract, a shiitake mushroom extract, a soybean extract, a sialid extract, A zizyphi fructus extract, a rosemary extract, a garlic extract, a red pepper extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a bud extract, a barley extract, a grape-seeds oil, the U.S. fermentation extract, a lettuce extract, an avocado extract, a Ganoderma extract, and a Cordyceps-sinensis-Berk extract of Buna, or two sorts or more.

[Claim 13]A moisturizer Hyaluronic acid, chondroitin sulfate, dermatan sulfate, a heparan sulfate, Mucopolysaccharides chosen from heparin and a keratan sulfate, and those derivatives; Collagen, Protein chosen from elastin, fibronectin, and a keratin, those derivatives, and hydrolyzate; A glycine, An alanine, valine, isoleucine, serine, threonine, aspartic acid, Glutamic acid, asparagine, glutamine, lysine, hydroxylysine, Arginine, cystein, cystine, methionine, phenylalanine, Tyrosine, proline, hydroxyproline, theanine, ORUCHININ, Amino acid chosen from citrulline and pyrrolidone carboxylic acid, and those derivatives; Sorbitol, Erythritol, malt sugar, maltitol, xylitol, xylose, Trehalose, inositol, glucose, pentaerythritol, Sugars chosen from fructose, sucrose and its ester, dextrin, and its derivative; the skin external preparations according to claim 4 which are a kind chosen from a group which consists of mucin, D-Panthenol and its derivative, urea, phospholipid, a glycolipid, and ceramide, or two sorts or more.

[Claim 14]A moisturizer Honey, a brown sugar extract, an aloe extract, a seaweed extract, a quince extract, A hamamelis extract, a sponge gourd extract, a mallow extract, an apple extract, A grapefruit extract, a prune extract, a lime extract, a yuzu citron extract, The Tilia miqueliana extract, a bramble extract, the Clara extract, a Chinese quince extract, A wheat germ extract, the Artemisiae capillaris flos extract, a sila lily extract, hop extract, A peppermint extract, dokudami extract, a peony extract, a coix seed extract, A lavender extract, an oats extract, a butcher's broom extract, An althea extract, a Hoelen extract, a nettle extract, a fennel extract, A kiwi extract, a cucumber extract, a grape extract, a cactus extract, the Rehmannia Root extract, A field horsetail extract, a cnidium rhizome extract, Mulberry bark extract, a

garden thyme extract, An horse chestnut extract, a peach extract, a rose extract, an apricot extract, a corn extract, Ginger extract, a lemon extract, an orange extract, a strawberry extract, gentian root extract, a common mallow extract, a wild ginger extract, a burdock extract, a HAUCHIMAME extract, an algarroba extract, an ivy extract, a pine extract, a cornflower extract, The skin external preparations according to claim 4 which are a kind chosen from a group which consists of a *Sanguisorba officinalis* extract and an *Ononis spinosa* extract, or two sorts or more.

[Claim 15]Skin external preparations of either of the Claims 1-14 whose content of tomato color is 0.0005 to 5 weight % given in a clause.

[Translation done.]